THE LANCET.

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The Lettsomian Lectures
ON
DYSENTERY.

Delivered before the Medical Society of London, 1914,

BY F. M. SANDWITH, M.D. DURH., F.R.C.P. LOND.,
GRESHAM PROFESSOR OF PHYSIC; LECTURER ON TROPICAL DISEASES, ST. THOMAS'S HOSPITAL, ETC.

LECTURE III.*

BACILLARY DYSENTERY.

WHAT cannot totally be known ought not to be totally neglected, for the knowledge of a part is better than the ignorance of the whole.—Ismail ibn Ali Abu el Feda (Preface to his Geography).

Epidemic dysentery is met with in all parts of the world, particularly in times of war and famine and in crowded institutions, such as lunatic asylums and prisons. Pure cases of it are not amenable to ipecacuanha or emetine, and it is not followed by abscess of the liver. Bacillus dysenteriæ, which includes a group of nearly allied bacilli, is now known to be the cause of the disease, which is therefore termed bacillary dysentery to distinguish it from amœbic dysentery.

BACTERIOLOGY.

The bacilli of dysentery have been isolated from a number of cases of infantile diarrhœa in the United States and in South Africa (Birt), but Morgan failed to find them under similar circumstances in London. In human victims the bacilli are found in the mucous membrane of the large intestine and in the stools, especially in the accompanying mucus. The organism does not become generalised in the blood, but it has been found in the mesenteric glands and once in the spleen. Several varieties of the bacilli have been described, differing from each other in detail and particularly in their action upon sugars. The varieties are usually divided into two types; the Shiga-Kruse, which does not ferment mannite, and the Flexner or mannite-fermenting type. To these two types must be added the Bacillus dysentericus El Tor, described by Dr. Ruffer in 1909, and found then and since to be the chief cause of dysentery among pilgrims returning from Mecca to the quarantine station at El Tor on the Red Sea coast.[1] It has the characteristics of the dysentery group, but differs somewhat from all the known varieties hitherto described. Ruffer, however, allows that the name is provisional and that his bacillus may eventually be found to be identical with one of the other bacilli. I may remind you that there is a similar multiplicity of varieties of the cholera vibrio, but it seems to me absurd to write about "true" and "false" dysentery bacilli.

Experimental inoculation.—The Shiga bacillus is the commonest cause of this type of dysentery, and is the one a culture of which produced dysentery in Strong and Musgrave's criminal (see Lecture I.). Negative results have, however, usually been obtained by feeding experiments on animals, though the following three successes are mentioned by Besson.[2] Chantemesse fed guinea-pigs with bacilli and produced dysenteric lesions in their intestines; Shiga introduced a culture into a cat's stomach and found that the animal suffered from mucous diarrhœa, with bacilli in the fæces; Kazarinow, by means of an œsophageal sound, introduced quantities of culture into the intestines of rabbits, and thus produced dysenteric lesions. Inoculation of bacilli into veins or into the peritoneal cavity is rapidly fatal, and causes hyperæmia but not ulceration of the intestines. Subcutaneous inoculation of rabbits, dogs, cats, and young pigs is followed by lesions resembling human dysentery and death. The Flexner bacillus is much less pathogenic to animals than the Shiga type, but the Tor bacillus occasions in guinea-pigs and rabbits fever, diarrhœa, paralysis, and death.

Microscopical appearance.—Hewlett[2a] says:—

> The bacilli are aërobic and facultatively anaërobic. On agar a thinnish creamy growth develops; on gelatin a white growth nearly limited to the inoculation track, and without liquefaction. The colonies on a gelatin plate closely resemble those of the typhoid bacillus. On potato the growth is either thin, grey, and slightly visible, or thicker and yellowish or brownish. The colour of neutral red media is unaltered. Litmus milk first becomes faintly acid, then markedly alkaline; no clotting. Indole is generally not formed (never by the Shiga type); occasionally a trace may be detected. All strains ferment glucose with the formation of acid only; no gas; none ferment lactose. Some strains (the Flexner type) ferment mannitol with the formation of acid only, no gas; other strains (the Shiga-Kruse type) have no action on this alcohol.

Agglutination reaction.—As originally discovered by Shiga, the blood of patients suffering from bacillary dysentery agglutinates in dilutions of 1 in 10 to 1 in 100 with the particular strain which caused the infection. But the reaction only appears in severe or moderately severe cases, and not before the end of the first week of illness or even later. It may remain for several weeks after recovery, but as a method of diagnosis the agglutination test has considerable limitations.

Toxins.—Only the Shiga bacillus produces toxin when it has been grown for a month and then filtered.

Detection of the bacillus.—The routine method for detecting the bacillus is to examine a fresh stool, which, if possible, has been passed into a sterile pail and is not mixed with urine. The bacilli are most numerous during the first week of the disease and gradually disappear until the third week, when they can no longer be found. They cannot be differentiated by the microscope alone, and the suspected material must therefore be sown on agar. Dr. P. H. Bahr,[3] in Fiji, found the following method the best:—

> A platinum loopful of the blood and mucus was diluted in broth and plated out on Conradi-Drigalski plates; 8 to 10 drops of the emulsion were found sufficient for one plate. When pure mucus without contamination with fæcal matter was passed by the patient, the dysentery bacilli were on several occasions obtained in almost pure culture. Dilutions and cultivations in MacConkey's bile broth proved unsatisfactory, as the dysentery bacillus appeared to become rapidly overgrown by other organisms of the coli group. On Conradi-Drigalski medium colonies of the dysentery bacillus were recognised by their peculiar transparent blue colour. They were further distinguished by their morphological and Gram-negative characters, and, lastly, by their sugar reactions.

Dysentery bacilli cannot live for long anywhere outside the human body. They die rapidly in sunlight or in ordinary sewage or in distilled water, and experimentally they are rapidly killed off in a broth medium when bacillus coli is added to it, yet for some unknown reason they are able to cultivate themselves in the human intestine.

* Lectures I. and II. were published in THE LANCET of Sept. 5th (p. 637), 12th (p. 683), and 19th (p. 731), 1914, respectively.

Post-mortem examination should be obtained as early as possible because putrefaction in the tropics begins immediately after death. To make cultures a loop of the large intestine should be ligatured and removed, when the interior may be washed with sterile water. The mucous surface is then cauterised with a red-hot iron rod, and a platinum loop is plunged through the surface into the subjacent tissue. Dilutions in broth can then be plated out on Conradi-Drigalski agar.

PATHOLOGICAL ANATOMY.

The character of the intestinal lesions varies as the dysentery is acute or chronic. In severe cases the mucous membrane of the colon and rectum suffers uniformly and, when ulceration is extended to the small intestine, it is the lower part of the ileum which is usually involved. The acute lesions begin on the projecting transverse folds, and extend to deeper levels; they consist of swelling and necrosis of the mucous membrane with the formation of irregular islands of a false membrane, often of a dark green colour. The ulceration depends in extent and depth upon the amount of necrosis and does not show the regular punched-out lesions of amœbic dysentery. At a necropsy soon after death there is very marked hyperæmia, but this fades in museum preparations. The intestinal contents, of course, resemble the stools before death, and usually consist of tenacious mucus with thick green liquid fæces. In the chronic disease the whole intestine is thick and hard, and islands of ulcerated mucous membrane may alternate with the pigmented, depressed scars of ulcers which are healed. Perforation and suppuration of the intestine occur but seldom.

The microscopical appearances must, of course, vary with the stage and severity of the disease. The most extensive changes are necrosis of the mucous membrane, where the epithelial cells can, perhaps, no longer be determined. The chances of recovery depend more upon the lesions being limited to the lower gut, even if the ulceration be deep, than to the involvement of the whole of the great intestine and the lower half of the small intestine in acute inflammation of a superficial character. The chief change in the submucosa is thickening from infiltration, and Dr. Bahr[3] noted that where the muscular coat remained intact no bacilli were ever found in the submucosa. Dr. S. Flexner says that the false membrane "is a close-meshed network of fibrin enclosing multinuclear, often fragmented, cells."

Bacteria are abundant in the necrosed mucous membrane, but are not so easily found in sections below it. Many careful observers refrain from determining dysentery bacilli by their morphological characters alone. In the Pretoria Yeomanry Hospital, which I helped to start, there were, in 1900–01, 3782 medical in-patients (British officers and men), among whom dysentery, with 475 cases, came second on the list of frequency. There were 13 deaths or 2·75 per cent. Amœbæ were never discovered by Dr. J. W. Washbourn and others, and in only one case was there a single hepatic abscess. It is fair to assume for various reasons that these 475 cases were all, or very nearly all, of the bacillary type.

Microscopically, the earliest stage seemed to be in the columnar cells lining Lieberkühn's crypts in the colon. Then followed small cell infiltration and œdema of the connective tissue around the vessels between the mucous crypts. The report written by my successors, Dr. Washbourn and Dr. H. D. Rolleston, continues: "The vessels in the submucosa may become thrombosed. The same necrotic process seen in the mucosa may attack the submucosa, and later the inflammatory process may extend right through the muscular tissue into the serous covering or even into fat around the colon. In some instances the muscular layer stains badly, and is broken up, appearances showing necrotic processes. When, after recovery from an acute attack, death subsequently occurs, the submucous layer is seen to be fibrotic from organisation of inflammatory products."[4]

CLINICAL DESCRIPTION AND DIAGNOSIS OF AN ACUTE CASE.—COMPLICATIONS.

The incubation period is short—from one to two days. The onset is usually sudden, but may begin with one or two days of diarrhœa. Griping pain in the colon is the first symptom, followed very shortly by motions which consist only of a little blood and mucus. The tenesmus is so constant that the patient is hardly content to be away from the bed pan. The fever in an uncomplicated case is seldom above 101° or 102° F., and does not last for more than three to eight days, while in a mild case the temperature may never be above 99°. The stools may vary in the 24 hours from 12 to 50 or many more. The tongue is slightly coated or may be clean, but there is no appetite for food. A fatal case gradually develops a rapid pulse, cardiac failure, and collapse, in spite of an apparent improvement in the temperature, and in the frequency and appearance of the motions.

In gangrenous or fulminating cases the symptoms are severe from the onset, the stools may resemble washings from raw meat, with large sloughs of necrosed mucous membrane, causing death as early as the third or fourth day. Fayrer, however, records a case in which a slough about a foot long was discharged and the patient recovered. Malaria, scurvy, arthralgia, arthritis, and cicatricial stenosis may all complicate bacillary dysentery. In the Pretoria cases there were two of multiple liver abscess without pylephlebitis. Five out of 11 men who contracted enteric fever, probably due to a plague of flies, from 26 to 70 days after admission to the same hospital, had originally suffered from dysentery. It must not be forgotten that a soldier in war time can contract dysentery and enteric fever at the same time. "Thus a man, aged 21 years, was attacked with dysentery on April 30th, 1901, and was treated for this disease at Middelburg until May 15th, when he was transferred to the Pretoria Hospital for change of air as convalescent. On admission there his temperature was raised, and he died on May 24th from hæmorrhage due to enteric fever."[4]

Malingering must be borne in mind, for Dr. Bahr found that Indian prisoners in Fiji simulated dysentery in order to escape from labour and get welcome rest in hospital. Sago and arrowroot were added to a stool to imitate mucus; mucus and blood, obtained by pricking the gums, were introduced; one prisoner was seen to add blood and mucus, obtained from another patient's stool, to his own. Others produced diarrhœa "by swallowing large doses of sodium sulphate, obtained surreptitiously."[3]

Malarial enteritis can be excluded by blood examination, by percussing and palpating the spleen, and, if necessary, by giving quinine in proper doses of the proper salts at the proper time of day. It must be remembered that in many parts of the tropics both malaria and dysentery are

endemic. Rectal bilharziasis and ankylostomiasis can be discovered by examining the fæces microscopically. The possibility of cancer of rectum in an adult might require digital examination, or the sigmoidoscope.

The differential diagnosis between amœbic and bacillary dysentery is not always so easy as it sounds, especially in chronic cases. It seems to be only expert protozoologists who can be certain of finding amœbæ, and particularly amœbic cysts, in cold fæces. Therefore, a negative report from an ordinary microscopist may sometimes be disregarded, if the patient has been in a dysenteric country, until a week of emetine injections has proved useless. Gentle scraping of the rectal mucosa may furnish evidence of amœbæ or bacilli. Amœbic cases usually run a more chronic and less toxic course than those of acute bacillary dysentery. Professor Rogers, while analysing the most frequent errors of diagnosis in 1000 medical necropsies in Calcutta, found that 12 out of 36 cases of bacillary dysentery were wrongly diagnosed in the wards, but 5 of them had only lived for a day or two after admission to the hospital. Simple diarrhœa and tubercular diarrhœa were the common errors, and after them, phthisis, acute yellow atrophy of the liver, cholera, remittent fever, and meningitis had been suggested clinically. Individuals returning to Europe from the tropics with chronic diarrhœa are more likely to have the amœbic form, while inhabitants of lunatic asylums and prisons in the British Isles will more probably be infected with the bacillary type.

I have already said that the symptoms and stools of the patient do not furnish us with much clue towards differentiation, but the fæces of a bacillary case are likely to be large, greenish-black sloughs, or they may look like spinach, or be all bright red blood without obvious fæcal material, or they may consist almost entirely of pink mucus. These appearances are not usually seen in the amœbic type. Sprue sometimes precedes or succeeds dysentery, and can usually be recognised by the tongue, history or presence of aphthæ, large, pasty motions, atrophy of liver, and emaciation.

ULCERATIVE COLITIS.

There remains for consideration the vexed question as to whether the disease called ulcerative colitis in this country is or is not bacillary dysentery. The provisional term "ulcerative colitis" originated at Guy's Hospital, and was first differentiated by Dr. Hale White in 1888. It is now generally used in England and is recognised in some American text-books. No one acquainted with both these diseases can have failed to appreciate the resemblance, as regards symptoms and post-mortem appearances, which one bears to the other.

The group of symptoms called dysentery in tropical and subtropical parts of the British Empire is usually labelled ulcerative colitis in the United Kingdom, at least outside lunatic asylums. We are confronted by an illogical outcome, for a case diagnosed as ulcerative colitis in a London hospital ward might be re-labelled if it were discovered later that the patient had lived in the tropics and that his fæces contained amœbæ or bacilli; or, again, if he became insane and had a colitis relapse in an institution the complaint would be called "asylum dysentery." But sporadic dysentery in this country is not confined to asylums nor to adults, nor to people who have resided in the tropics. Let me recall to your memory the case of a child 2 years old who died in Lambeth in January, 1909, from very acute dysentery lasting only two days. This case was reported by Lieutenant W. E. Marshall, R.A.M.C., who stated that the organism, isolated in almost pure culture, was identified with Flexner's bacillus by cultural and agglutination methods. You may also remember Professor R. Saundby's tinsmith, aged 48, who had never been out of England, in whose stools Dr. J. T. Hewetson found the Shiga bacillus.[5] Dr. H. P. Hawkins analysed 85 purely English cases of ulcerative colitis at St. Thomas's Hospital, of whom 41 died; two of them agglutinated Shiga's bacillus, and in another paper, read before this society, he records an additional case where "from a high rectal scraping B. Flexner was obtained."[6] In 1908 Professor Saundby published a case of a child, aged 3 years, where agglutination with Shiga's bacillus occurred.[7]

The bacteriological research of Dr. Ledingham and others has shown that bacillary dysentery is more widely distributed in England, outside asylums, than has hitherto been believed, and evidence is forthcoming that the bacillus dysenteriæ is occasionally found in the stools of those who were not known clinically to be suffering or to have suffered from dysentery. Some of the strains isolated from such patients, who were suspected of being "typhoid carriers," belong to the mannite-fermenting type of the dysentery bacillus, akin to the one discovered by Flexner in Manila in 1901, and which has since been proved to be the cause of certain epidemics of summer diarrhœa in the United States. Though neither the Shiga nor the Flexner type of dysentery bacillus has been isolated by Morgan, Ledingham, and others from cases of summer diarrhœa in England, it is quite possible that certain sporadic cases of diarrhœa in this country may be caused by some variant of the dysentery bacillus. Too much stress should not be laid on the fact that tenesmus and pain at the anus, both very prominent symptoms in dysentery, may hardly exist in "colitis," for these symptoms depend chiefly on the site of the ulceration. In any intestinal lesion tenesmus is unlikely to be present if the neighbourhood of the sphincter is not involved. Dr. L. S. Dudgeon, in 1908, unsuccessfully inoculated for Dr. Hawkins two rabbits intravenously and two guinea-pigs intraperitoneally, but have many subcutaneous inoculation experiments on rabbits, dogs, or cats been tried with cultures from the stools of ulcerative colitis patients?

Considering the very high rate of mortality of this disease (70 to 80 per cent., according to Hawkins), its unknown causation and the fact that it occasionally yields to antidysenteric drug treatment (saline purgatives, calomel, large enemata of silver nitrate, &c.), I venture to think that the patient might have a better chance of recovery if physicians would give up their preconceived views. Instead of assuming that cases now called "ulcerative colitis" cannot be dysentery because they have never been in the tropics, how would it be to assume that they are dysenteric, and make every endeavour to find, in early cases, amœbæ, or, what is more probable, some evidence of one of the existing varieties, or of a new variety, of the dysentery bacillus? If this suggestion were adopted the physician might make use of remedies such as emetine and bismuth, or such as a multivalent

antidysenteric serum, accompanied by large enemata. If a month of this treatment failed to do any good the patient should be no worse, and the physician could still consider the possibility of employing calomel and opium, or of summoning surgical assistance.

Able physicians, writing on colitis, unconsciously contrast it with the picture of acute dysentery instead of with chronic dysentery, when B. dysenteriæ can no longer be recovered from the stools because they are so outnumbered by B. coli and other saprophytes.

ASYLUM DYSENTERY.

I should now like to draw attention to the extraordinary and unexplained prevalence of bacillary dysentery among our lunatics. It seems to linger in some asylums as if it were the last remnant of the dysentery which used to be so prevalent in this country. The Commissioners in Lunacy have still to regret the introduction of dysentery from old asylums into new asylums, built on the best principles of modern hygiene, within a few weeks of their opening. On the other hand, in some asylums dysentery is never present. It is important to note that dysentery in an asylum is not always limited to the insane. The Sixty-seventh Report of the Commissioners in Lunacy, published in 1913, records the existence during 1912 of 1155 cases of dysentery, of which 287 died. There were also 555 cases classified as "diarrhœa or infective enteritis of uncertain origin," of which 64 died. Both dysentery and diarrhœa are slightly more prevalent among female than among male insane patients.

In addition to the lunatics, five members of the staff suffered during the year from dysentery and four women from diarrhœa. These statistics are compiled from 95 county and borough asylums in England and Wales. No less than 72 of these asylums harboured during the year one or more cases of dysentery. In other words, only 24 per cent. of these asylums are free from dysentery. The highest incidence was as follows:—

London: Colney Hatch	53 cases.
Long Grove...	50 ,,
Yorkshire: Wakefield	78 ,,
Devon	90 ,,
Sussex, East	75 ,,
Staffs: Burntwood	69 ,,

These are all asylums with more than 1000 inmates.

In Devon Asylum there were on the inspection day 1311 patients. The heaviest incidence of dysentery was in the autumn months; there were 20 deaths. The Commissioners report that plans for a pathological laboratory have been approved by the Secretary of State. At the inspection of the East Sussex Asylum after an interval of 20 months the Commissioners report: "During the period under review as many as 191 patients (134 males and 57 females) and two nurses have suffered from dysentery, as regards eight of the patients with fatal termination. At the present time (Oct. 5th, 1912) four patients are in bed with the disease in an active form." They had little else to say about dysentery, but among other benevolent remarks they said "we thought more attention might have been paid to the warming of the plates" at dinner time! The Commissioners do not seem yet to have grappled with their dysentery problem on any modern scientific lines, but they have the grace to acknowledge that "there is certainly no evidence yet of that steady decline we should like to be able to record." Though they recognise the importance of diagnosis and segregation, there is no word in their voluminous report about the danger of human carriers.

It seems to be generally accepted by bacteriologists that all this asylum dysentery is of the bacillary type. Dr. Eyre, working with material from one of the London County Asylums, found not only that a bacillus identical with Shiga's bacillus could be isolated from the stools of six dysenteric patients, but also that the blood serum of some of these patients possessed a specific agglutinative action when tested "against other strains of bacillus dysenteriæ isolated from cases of dysentery in tropical countries."[8] Flexner's bacillus was found in the stools of 17 out of 19 cases of dysentery occurring in the Somerset and Bath Asylum.[8a] Dysentery in the form of local epidemics was well known in England until the middle of the nineteenth century, a date when the first batch of lunatic asylums had already been built. Mr. H. S. Gettings has traced the history of dysentery in the Wakefield Asylum from the month when it was opened, November, 1818, to the present time.[9] By a table, compiled from the case books and registers of the asylum, he is able to show that dysentery has been present every year for 96 years, with the exception of nine not consecutive years, when there is no certain evidence of its having existed. The disease was not always called dysentery; it was often labelled chronic diarrhœa, feverish diarrhœa, dysenteric diarrhœa, and, since 1886, catarrhal enteritis, catarrhal ulceration of the large intestine, influenzal colitis, or ulcerative colitis.

In 1838 Dr. Caleb Crowther, of Wakefield, wrote a book containing a chapter headed, "Is the Spread of Dysentery in our Lunatic Asylums a Necessary Evil, or is it the Effect of Negligence on the part of the Medical Superintendent?" In this chapter he says: "I am firmly convinced that when dysentery spreads by infection in an asylum it is the result of inattention and negligence." Gettings states that when Dr. Bolton was appointed superintendent in 1910 he ordered that the intestines should be opened and examined at every necropsy. "The routine performance of this led to the detection of cases which would otherwise have been missed. It also revealed many cases to be still active that clinically had given no signs for weeks or even months. Before this time it had been the exception to open the bowels, and it is rare to find any note in the (recent) post-mortem books other than 'stomach and bowels normal to external appearances.'" Lunatics are even more difficult to deal with than sane patients, for they may never complain of diarrhœa nor any other intestinal symptoms, and yet when they die they are found to have had, perhaps for years, chronic disease of the colon. Thus it is possible by careful searching, as in cholera and in enteric fever, to detect a carrier who has never been suspected of dysentery, but who has nevertheless been responsible for a localised ward epidemic. Mr. Gettings tells me in a private letter that in 1913 there were 100 cases of dysentery with 29 deaths at Wakefield. Eighty of these were examined by him, and he found the B. dysenteriæ in half of them. It belonged to the Flexner group.

MILITARY CAMPAIGNS.

Shiga says of bacillary dysentery, "Always a constant companion of war, it has been more fatal

to armies than powder and shot." In the Russo-Japanese war dysentery bacilli were found in Manchuria, in Korea, and among the Russian troops at Port Arthur.

DANGER OF FLIES AND CARRIERS.

Though dysentery in cool climates has not always been, and is not now, confined to the summer and autumn, when house flies are abundant, it is significant that temporary outbreaks both in Europe and the tropics often occur during the fly season. Dr. Bahr has suggested that the fly season in Suva corresponds exactly with the annual epidemic of bacillary dysentery.[8] In many of the Fiji islands "the traveller becomes covered from head to foot with these insects immediately he ventures outside his lodging, and in the sugar districts life is made endurable only by the provision of flyproof netting over the doors and windows." Bahr succeeded in isolating Shiga's bacillus from the lower intestinal tract of flies which had been caught on the bed of a patient suffering from a very acute attack of dysentery and from whose stools the Shiga bacillus had been isolated. He suggests that the flies had imbibed the infection from the soiled clothing. During some 40 experiments conducted later at the London School of Tropical Medicine he found that it was impossible to recover the dysentery bacillus from the intestine of any fly after the fifth day of infection. Also he was unable to obtain any evidence of the multiplication of the bacilli in the flies.[9] But his valuable work, often conducted under trying circumstances, fully justifies our continuing to suspect the house-fly (Musca domestica) as being a carrier of bacilli from fæces to food. This is another similarity in the etiology of dysentery and enteric fever, for every year evidence is forthcoming which puts the causation of these two diseases on similar lines.

Contamination of drinking water or of raw vegetables, milk, and other food supplies must first be suspected, especially if a group of people are simultaneously infected; but for sporadic, isolated cases, when no evidence can incriminate water and food, we must suspect flies and, what is of greater importance still in every climate, the human carrier. To stamp out dysentery from an asylum or a district it is necessary to treat it with exactly the same precautions as a careful sanitarian devises against cholera or enteric fever. Seven years ago Shiga wrote: "The most important source of infection is the individual suffering from dysentery."[11] In every epidemic there is evidence of contact infection from stools or from the clothes or other articles soiled by the patient.

Gettings is sure that at Wakefield it is the human carriers, the chronic cases, "who keep the asylum infection going, who originate fresh cases and epidemics. They form the keystone of the problem, and must be detected and isolated before any permanent good can be done."[9] Dr. Macalister found, "at a large lunatic asylum in the Midlands," that the actual carriers were chiefly among the incomplete convalescents from dysentery.[12] Tebbutt in the same asylum found, while examining the stools of 28 cases, eight lunatics who were "excreting dysentery bacilli, which were not found necessarily associated with blood and mucus," but he could not discover any bacilli in the flies.[13] In India most of the prison dysentery is bacillary, and Forster, Gillitt, and others have greatly reduced its incidence by instituting "post dysenteric gangs," in which prisoners are isolated after the active symptoms of the disease have disappeared.

Two recent instances of infection may be quoted. In the summer of 1913 an epidemic of bacillary dysentery broke out in a cavalry regiment in Würtemberg, where dysentery had been practically unknown among the troops for several years. The infection was introduced by visitors from Alsace, where dysentery is endemic. There were 52 men infected, no fatal cases, the same bacillus was isolated in every instance, and amongst the apparently healthy men of the regiment no less than 13 were found to be carriers of the same bacillus by bacteriological examination of their stools. After six weeks the epidemic was stamped out without any spread to the other regiments of the garrison.[14] In a children's ward in a Frankfort hospital there were 23 patients, of whom 20 contracted bacillary dysentery and 6 died. The disease was introduced by a child suffering from whooping-cough.[15] There are instances of the disease having occurred among monkeys, and on one occasion it was transmitted from the animal to man. Spontaneous (Flexner) dysentery broke out among monkeys in a Paris laboratory in 1905.[16] Several similar cases developed in 1910 in the animal house of the Bureau of Science in Manila.[17] In 1911 a keeper at the Hamburg Zoological Gardens contracted Shiga-Kruse dysentery while nursing a chimpanzee, which eventually died of that disease. A second chimpanzee from the same cage also caught the disease, and, like the keeper, recovered.[18]

TREATMENT.

The treatment may be divided into the care of acute and chronic cases and the administration of serums. There are a few general remarks which apply to all cases. Absolute rest in bed is just as important as in enteric fever, but if there is much nausea it is a mistake to lie on the right side. The patient's abdomen must be safeguarded by a flannel belt together with a pad of cotton-wool if the climate permits. A thin linseed poultice, on which have been sprinkled 30 drops of liquid extract of opium, seems to relieve intestinal pain better than a poultice without opium; this can be noticed even in cases where the patient is unaware that opium has been added. The poultice must be very light in weight, because the abdomen is so tender in acute cases.

The diet should be liquid and tepid; albumen water, rice water, to which boiled or peptonised milk may gradually be added. Some patients take Horlick's malted preparation better than any plain milk; panopeptone and Benger's food are very useful. When convalescence is beginning the food should be very gradually increased, as in typhoid fever, the appearance of the motions, which must be examined every day, being the surest guide. Turkish and Egyptian patients dislike milk very much, and seldom take it in health unless they consider they need an aperient. For them, and very often for all dysenteric patients, the sour milk of Eastern countries, *yaghurt*, is much to be preferred. It is vastly superior to the curdled milk prepared from so-called lactic acid tablets. I see that a preparation called "yaourt" is now for sale in London, but I do not know how it is prepared. The following description of the *yaghurt* used at El Tor is given by Dr. Willmore and Dr. Savage.[19] Several samples of ordinary sour milk were inoculated into sterilised milk. "That which gave the softest and

most homogeneous curd was then plated out on MacConkey or lactose cochineal agar, and pure cultures obtained of a large lactic-acid-producing bacillus and a long streptococcus (? S. lebensis). These were then inoculated into sterilised milk (Natura brand)—the Australian condensed milk is unsuitable—and each batch of *yaghurt*, prepared in covered sterilised jars in an incubator at 37° C., was inoculated with a flamed spoon from the preceding one." Alcohol should not be given unless the patient is in a state of collapse, when intracellular saline injections are also useful. Thirst can be alleviated by weak sulphuric acid lemonade. Constipation, when present, can be treated with paraffin or laxamel.

Drugs.

On the first day small doses of calomel help to clean the tongue and the intestinal canal, say, one-sixth of a grain, with a little bicarbonate of soda every hour for six or eight hours. Opium is of no use except as a temporary measure to procure sleep. The saline treatment originally recommended by Professor R. Bartholow in 1877, then of Ohio and later of Philadelphia, often gives good results after the calomel; a drachm of sodium sulphate or of magnesium sulphate can be given every hour for one day in water with tincture of cardamoms, and subsequently every four or six hours. Its chief use is to empty the intestine of fæcal matter. Tenesmus can be relieved by suppositories of cocaine, belladonna, or opium.

The only large enema I should now use is a soothing one of 2 pints of warm water, in which an ounce of linseed has been allowed to soak for some hours; this may be retained by the patient as long as he likes. If the anus is very sore it may be painted with cocaine before the tube is inserted, or a suppository of 1 grain of cocaine may be introduced half an hour beforehand. Sulphur was given with success during the South African war by Dr. G. E. Richmond in doses of 20 grains, together with 5 grains of Dover's powder. This was ordered every four hours, but in chronic dysentery sulphur alone was given.[4 20]. Cyllin given by the mouth is a useful disinfectant. In chronic dysentery I have faith in bismuth in doses of not less than 15 grains every four hours, and I still have confidence in large enemata of nitrate of silver or sulphate of copper.[21] Professor Rogers has this year published a note of praise of organic silver salts. Those which he thinks should be investigated as being bactericidal to the dysentery bacilli are albargin or silver gelatose, nargol or silver nucleate, and protargol. He finds that boracic acid and quinine have little or no action on the bacilli, but he recommends a further trial of cyllin.[22]

The routine method is to employ a long tube and funnel, or a reservoir containing three pints of the solution 1 in 1000. The rectal tube must be soft to avoid injuring the bowel, and after being well greased with boracic ointment it should be introduced, if possible, its whole length. The solution is not injected but allowed to run in very slowly during some minutes, while the patient is in the knee-elbow position. The tube should be passed by the medical attendant. All patients can hold one pint, rapidly increased to two pints, and some can gradually accustom themselves to take four pints or more. This enema need not be retained for more than five minutes and need not be repeated more than once a day.[21] I used to give in addition, once a day, a boracic acid (one ounce and a half) and starch enema of two pints, but I once found that an English patient, 12 hours later, was covered with an erythematous scarlatiniform rash over face, inside of arms, abdomen, and legs; and at the margins of this rash, which lasted for 30 hours, were patches, erythematous and slightly raised, ¼ inch in diameter. This patient had retained the enema for 25 minutes and, unlike other patients, he had vomited three times after it. I then treated him with large enemata of saline solution and sulphate of copper, which caused him no discomfort.

Serum.

We know from Shiga that antidysenteric serum is bactericidal as well as antitoxic. Many observers elsewhere have agreed with his verdict in Japan: "The course of the disease is shortened in those who recover and lengthened in those who would otherwise die." During the Tor season, between November, 1912, and January, 1913, there were 16,551 pilgrims who passed through the quarantine station. There were 75 admissions into the hospital with dysentery, of whom 9 died. There were 26 of these cases in which bacillary infection only was present; 22 of them were treated with serum and 2 died, a mortality of 9 per cent. The remaining 4 were not treated with serum, and 2 died, a mortality of 50 per cent. The total dysentery death-rate among pilgrims has been reduced, since the introduction of serum, from 53 and even from 70 to 12 per cent. The routine treatment described by Willmore and Savage is as follows: On admission to hospital of a suspected case a few drops of blood were taken from the median basilic vein and the fæces were examined microscopically and plated out. According to the data furnished by blood reactions and the stool plates, serums were administered, generally multivalent, unless Shiga's bacillus alone was isolated. "The best results are obtained from the administration of very large doses, from 80 to 120 c.c., injected either deeply into the subcutaneous tissues of the flank and abdomen or intravenously." It will be noted that these doses are much larger than the 20 c.c. recommended by the Lister Institute. The injections "are repeated twice daily or at longer intervals, as the patient's condition demands, during not longer than ten days after the first dose." The first result of a large injection is a general improvement in the patient's condition, so that occasionally a man, apparently moribund before the injection, may a few hours later be enjoying a meal.[19] Dr. Bahr's recent experience of treatment in Fiji is that the cases injected intravenously with polyvalent antidysenteric serum gave the best results as far as could be ascertained.[3] He gave to adults 20 c.c. and to children 10 c.c. or less.

I may conclude by saying that in any case of doubtful origin the combined treatment of the patient by emetine and by polyvalent antidysenteric serum is, in my opinion, both rational and humane.

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OBSERVATIONS ON THE IMPROVISATION OF APPARATUS IN THE TREATMENT OF CERTAIN FRACTURES IN MODERN WARFARE.

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AND
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DURING a recent visit to certain hospitals in Austria and Hungary one of the writers of this article saw the apparatus of Florschütz in use. Knowing that it was adopted with great success in the recent Balkan war, and being greatly impressed with its simplicity and efficiency for either simple or compound fractures of the thigh, or even of the leg, he feels at this juncture urgently induced to describe it. He and his collaborator do this in the hope that it may be of use in certain cases where the usual splints are not available, or even in preference to them, in our military hospitals at home or abroad.

Cases of fracture of the thigh.—The armamentarium required is as follows: 1. A piece of smooth wood 5 ft. long, 6 in. wide, and 1½ in. thick. 2. Two pulley wheels on a screw base. 3. Bricks or blocks to raise the foot of the bed. 4. A 6½ ft. to 7 ft. pole, the thickness of a broomstick. 5. Some broad gauze or calico bandaging 4 in. to 6 in. in width. 6. Adhesive strapping. 7. Sand bags.

FIG. 1.

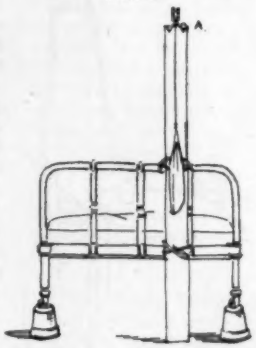
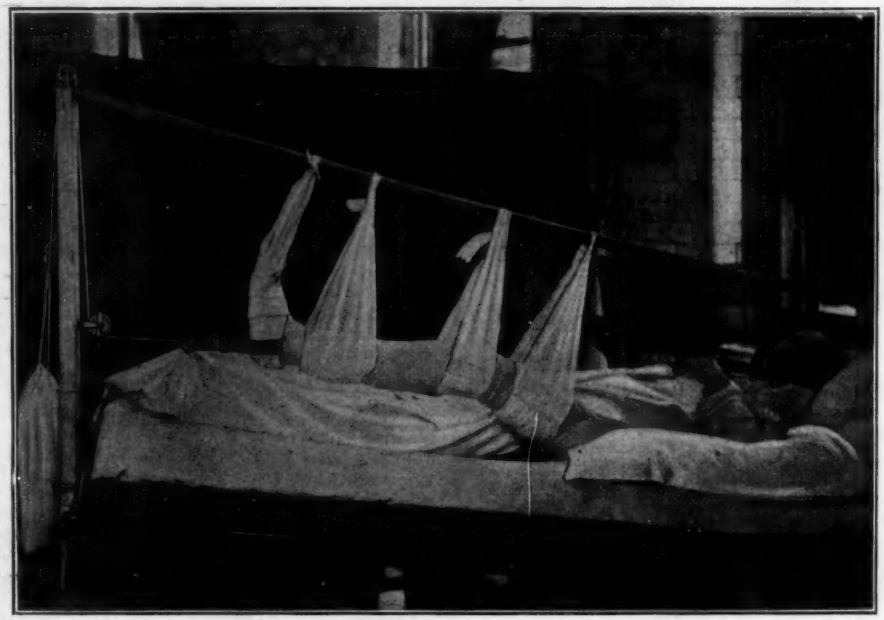


FIG. 2.

The bed is prepared with a firm mattress.† The wide board is inserted at the foot of the bed or between the mattress and the end of the bed, and is fixed by means of cord or bandage to the bed frame either to the right or left of the mid-line according to the fractured extremity. (Fig. 1.) The lower roller screw is inserted about a span above the mattress and the upper to the middle of the upper edge of the upright, both of which rollers must be in the same perpendicular. The pole is now fixed by one end to the centre of the head end of the bed and the other rests in a notch in the board at the

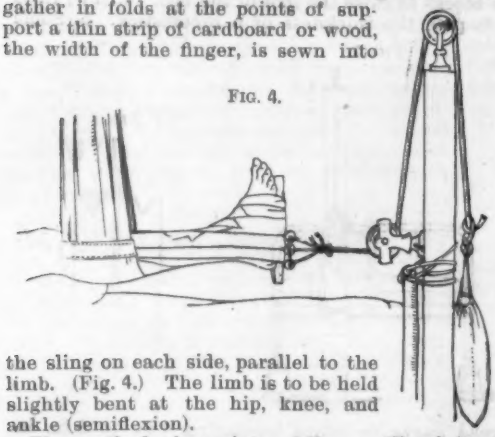
FIG. 3.



Florschütz method of extension with the leg suspended in semiflexion

foot of the bed by the side of the upper pulley. (Fig. 2.) This pole serves for the suspension of the leg which will be put in the middle of three gauze slings which have been lined with wadding and will support the leg under the thigh, knee, and calf. (Fig. 3.) In order that the slings shall not gather in folds at the points of support a thin strip of cardboard or wood, the width of the finger, is sewn into the sling on each side, parallel to the limb. (Fig. 4.) The limb is to be held slightly bent at the hip, knee, and ankle (semiflexion).

FIG. 4.



The method of use is as follows. The injured limb in the case of the thigh has an ordinary adhesive plaster extension applied (Buck or Bardenheuer), reaching upwards as far as the lower fragment, or beyond if necessary. (Fig. 3.) In the case of the lower leg the weight may be attached by another device. A piece of soft wood the length of the foot and slightly wider is fixed by strapping to the sole and heel with a layer of cotton-wool or gauze intervening, a gauze protection also being afforded to the prominent malleoli. Four picture-frame rings are then inserted into the wooden sole near the heel, so that a cord may be passed through, and the line of traction made just posterior to the malleoli. (Fig. 5.)

FIG. 5.

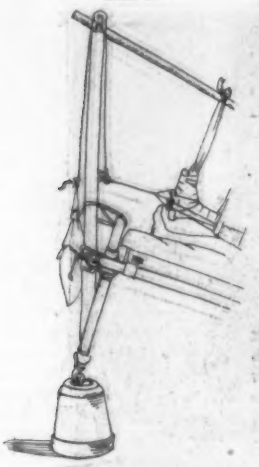
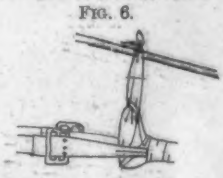


FIG. 6.



The patient is placed in the right half of the bed in case of fractured left femur, and in the left half of the bed for the right femur. This brings about a certain amount of abduction, which is most essential in fractures of the upper thigh. The slings are now placed and fastened to the rod over the bed, so that the limb is held in slight flexion at the hip and knee. The line of traction of the cord is so arranged as to pass just behind the mid-ankle, round the lower pulley from which the cord is diverted perpendicularly upwards over the pulley at the top of the board, where it is attached on the other side to a sand-bag holding six or seven pounds or more as required. A triangular bandage encloses the heel and sole of the foot and is tied to the suspension rod to guard against an undue sinking of the heel or over-extension of the foot. (Fig. 6.) Counter extension is not necessary by this method.

The advantages of this method are:—1. The comfort which the sling position in semiflexion affords the patient. 2. It permits a certain degree of movement and an easier handling of the patient by the nurses. 3. Friction sores are practically impossible. 4. The patient obtains by the sling method more effective extension with less weight: the muscles, joints, and especially the ligaments are not subjected to over-stretching, and consequently the Buck's extension holds longer than is the case when the limb is put up in the extended position with twice the weight (e.g., Liston's splint). 5. Abduction is obtained without any accessory apparatus. 6. The method is applicable with any sort of bed. 7. The necessary material is easily procured and prepared. 8. The supervision is very simple. 9. It allows the necessary attention to wounds—i.e., change of dressings, without inconvenience and disturbance. 10. The results as tested by means of measurement and radiography have been very satisfactory.

PS.—With the exception of Fig. 3 it has not been considered necessary to add any explanatory note to the illustrations as we consider the text is sufficient.

(To be continued.)

A CASE OF ENTERIC FEVER COMPLICATED BY PURPURIC SYMPTOMS.

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IN THE LANCET of July 18th Dr. A. Caddy and Dr. B. Molony[1] have described three cases of hæmorrhagic typhoid fever, the first of which was characterised by hæmorrhages from the gums, purpuric rash, and hæmorrhage from the rectum, and into the bladder. A patient whose case presents several features in common with the above has been lately under treatment in the Willesden Isolation Hospital.

The patient, a woman aged 22, was admitted on May 30th, 1914, suffering from a typical and moderately severe attack of enteric fever. She was then in the fourteenth day of her illness, and gave a history of malaise and headache, getting worse and associated with diarrhœa for several days before admission. There was no history of epistaxis. The temperature on admission was 102° F., and during the first fortnight of her stay—i.e., from the fifteenth to the twenty-ninth day of disease—was of a decidedly swinging type, with evening rise from 102·8° to 104°, and morning remission 99° to 100°. The pulse was 108 on admission, and during the height of the fever never rose above 120; it was soft and dicrotic, but never irregular or weak. On examination the abdomen was found to be slightly tumid; there was no abdominal pain, but some indefinite tenderness on palpation; the spleen was palpable under the left costal margin. Rose spots were fairly numerous on the abdomen and chest. The tongue was thickly coated. The heart and lungs were found to be normal. A sharply positive Widal reaction with dilution 1–30

[1] Caddy and Molony: THE LANCET, July 18th, 1914, p. 147.

was obtained. Diarrhœa lasted for five days, and was followed by constipation. From June 4th to 11th there was albumin in the urine. The patient remained rational during the whole attack. Treatment was on the usual lines—a strict milk diet and sponging when necessary. In addition 1 oz. mist. chlori et quininæ (quin. sulph. gr. 2½ in 1 oz.), which is given as a routine to all cases of enteric fever in this hospital, was administered four-hourly.

On admission a bruise of about the size of a five-shilling piece was found under the inferior angle of the right scapula. A poultice was said to have been applied there before admission. In view of the subsequent history of the case this bruise is of some significance. In all probability there had been slight trauma with extravasation of blood. Locally there was a distinct swelling, tender, and of a dark purplish colour. The condition lasted a fortnight unchanged; the swelling and discolouration then gradually subsided, and disappeared at the end of three weeks. On June 15th, the thirtieth day of illness, bleeding began from the gums, a slight but persistent ooze. In addition to this symptom on the 19th hæmorrhage was noted under the conjunctivæ, and hæmorrhagic spots began to appear on the abdomen, chest, and back. These gradually increased in number until by June 22nd the body was well covered with petechiæ. Besides the petechiæ several larger, dark purple hæmorrhages were found on the buttocks and back, irregular in shape, of about the size of a shilling piece. On the 19th there was bleeding per rectum, with the stools, and independently, about 1 oz. at a time. The melæna continued for three days, occurring on six occasions altogether. From the onset of the purpuric symptoms the temperature, already falling, became subnormal in the morning, with evening rise 98°–99°; the pulse, 80–96, was always good. The treatment at first was local, adrenalin hydrochloride, 1 in 1000, being applied to the gums. As the bleeding still continued and the other signs of purpura began to appear the mist. chlori et quininæ was omitted on June 20th; adrenalin hydrochloride, 1 in 1000, 3 minims, was given six hourly by mouth in 1 drachm of water, and calcium lactate 5 grains three times a day. The purpuric symptoms from this date began to abate; the melæna ceased on June 22nd, the hæmorrhage from the gums on the 24th, while the petechiæ began slowly to fade. The patient's general condition remained fair, though she was undoubtedly weaker and becoming blanched from loss of blood; she, however, took liquid nourishment well.

On June 24th, the thirty-ninth day of the disease, there was a rapid rise of temperature from normal to 102° and the pulse rose to 132; and on the 25th there was a further rise to 103·6° and the pulse rose to 144. There were no abdominal symptoms, and the rash, now fading, alone remained of the purpuric symptoms. The high temperature was maintained without anything definite to account for it, till on June 26th fulness and tenderness on the left side of the neck were found. The left tonsil was swollen, inflamed, and covered by a dirty grey deposit, from which the B. diphtheriæ was isolated. 4000 units diphtheria antitoxin were injected on June 27th. A rapid improvement took place; two days later the deposit and signs of inflammation had gone, and the temperature had fallen to normal. From July 1st progress towards convalescence was uninterrupted. On July 14th—the fiftieth day of illness—the patient was up for a short time and was put on full diet. She was discharged on July 23rd feeling well and fairly strong to go away for convalescence.

A point of interest is that the three cases described by Dr. Caddy and Dr. Molony and the above case were all treated with quinine—the former receiving 30–40 grains a day for several days, the latter 15 grains a day for 15 days—before the purpuric symptoms began. The question arises whether the exhibition of quinine acted as a contributory cause of the purpuric symptoms, or whether the latter arose independently and might be ascribed to a toxic origin. From the fact that the case described above had a large hæmorrhagic bruise on admission it may be concluded that here there was at least a tendency to hæmorrhagic symptoms before the administration of quinine was commenced. Hale White[2] states that quinine may cause erythematous rashes, epistaxis, and other hæmorrhages. Montgomery[3] quotes a case with bleeding from the gums, conjunctival hæmorrhages, and purpuric spots following the administration of quinine. At the same time cases of enteric fever with purpuric or hæmorrhagic symptoms have from time to time been described in which no note is made of the administration of quinine. Londe[4] describes a case of enteric fever, with hæmorrhage from the gums, epistaxis, hæmaturia, and purpuric eruption, the symptoms starting on the twentieth day of disease; and Thompson[5] a somewhat similar case in which the purpuric symptoms, starting on the eleventh day, were epistaxis, hæmorrhagic spots, hæmorrhage per rectum, and subconjunctival hæmorrhages. Both cases were severe typical attacks of enteric fever, with some degree of toxæmia, and both recovered. The causation of purpuric symptoms in enteric fever may therefore be ascribed to toxins developed during the course of a severe attack, although in the above case the factor of the administration of quinine has to be eliminated.

I am indebted to Dr. W. J. J. Stewart, medical superintendent, for permission to publish this case.

Neasden, N.W.

OBSERVATIONS ON THE COMPOSITION AND DERIVATIVES OF URINARY DEXTRIN.

BY P. J. CAMMIDGE, M.D. LOND.,
AND
H. A. H. HOWARD, B.SC.

IN a paper published by one of us in 1909[1] it was shown that the urine of persons suffering from inflammatory affections of the pancreas contains a complex which on hydrolysis with hydrochloric acid gives rise to a substance having the characters of a pentose, and that similar results could be obtained with the urine of animals in which pancreatic changes had been set up experimentally. At that time the mother substance from which the pentose was derived had not been isolated, but we have since been conducting experiments with that object in view. The fact that the complex which

[2] Hale White: Materia Medica, p. 448.
[3] Montgomery: Boston Medical and Surgical Journal, 1897, vol. cxxxviii., p. 646.
[4] Londe: Bulletin et Mémoires de la Société Médicale des Hôpitaux de Paris, 1899, 3. s., xvi., p. 825.
[5] Thompson: Medical and Surgical Reports, Presbyterian Hospital, New York, 1898, vol. iii., pp. 80–84.
[1] Proceedings of the Royal Society, B, vol. lxxxi., p. 372.

was being sought for yielded a pentose on hydrolysis with a dilute acid, and this in its turn would readily give rise to furfural on treatment with a stronger acid, and the fact that it was not fermented with brewer's yeast, suggested that Landwehr's animal gum, or rather the pure product free from ash and nitrogen, termed "urinary dextrin," separated by Baisch, Salkowski, and Alfthan, might be the substance in question. The dextrin was therefore isolated from a number of urines which had been found to give a marked "pancreatic" reaction by the following procedure.

The urine was mixed with a tenth of its volume of a saturated solution of lead acetate and filtered. The filtrate was concentrated and the lead removed by treatment with sodium sulphate. The resulting clear liquid was then concentrated to a small bulk, cooled, and filtered off from the crystals which separated out. The filtrate was mixed with four times its volume of 90 per cent. alcohol, boiled, and filtered while hot. The solid residue left on the filter was well washed with alcohol, dried, dissolved in as small a quantity of hot water as possible, and cooled. The crystals that separated were removed by filtration and the filtrate was again treated with alcohol. The purified precipitate was then suspended in a 10 per cent. solution of sodium hydrate and shaken with benzoyl chloride. After standing for 24 hours the mixture was filtered, thoroughly washed with distilled water, dried, and extracted with water. The residue was ground up with dilute hydrochloric acid, filtered, and the residue on the filter washed free from chlorides. It was then dissolved in warm alcohol, filtered, cooled, and saponified by means of sodium ethylate, the hydrolysis being continued until a filtered portion gave no precipitate when added to distilled water. The voluminous precipitate was filtered off and washed with 95 per cent. alcohol until the washings were neutral in reaction. It was then dried, dissolved in water, precipitated with five times its volume of 90 per cent. alcohol, filtered, and the precipitate washed successively with alcohol and ether, then dried and dissolved in water.

Solutions of the dextrin were found to give no colour reaction with iodine, they were not fermented with brewer's yeast, and did not reduce copper or bismuth solutions. After being heated with dilute hydrochloric acid and neutralised, the solution showed strong reducing powers and gave the orcin and phloroglucin reactions for a pentose. The hydrolysed solution was not fermented by yeast. The dextrin was found to be free from nitrogen, and ultimate analysis in two cases gave:—A, carbon, 43·8 per cent.; hydrogen, 6·2 per cent.; oxygen, 50·0 per cent.; and B, carbon, 43·6 per cent.; hydrogen, 6·3 per cent.; oxygen, 50·1 per cent., corresponding to the following formula:—$(C_6H_{10}O_5)_n$ $C_5H_9O_5$ or $(C_6H_{10}O_5)_n$.

We then proceeded to determine the nature of the sugar split off by hydrolysis from the dextrin. The total dextrin from 5 litres of urine was dissolved in 100 c.c of water, 20 c.c. of pure hydrochloric acid were added, and the mixture boiled for ten minutes. It was then cooled, neutralised with 60 grammes lead carbonate, filtered, and 30 grammes of basic lead acetate added. The mixture was well shaken, allowed to stand overnight, and then filtered. The excess of lead was removed from the filtrate with sodium sulphate, and the filtrate from this evaporated to dryness on the water bath. The residue was extracted with 90 per cent. alcohol, the extract filtered, and the alcohol evaporated off. The residue then obtained was dissolved in water, and the osazone prepared by Maquenne's method. The osazone was purified by recrystalling from dilute acetone, or dilute alcohol, several times. Microscopically it was found to consist of fine yellow tufted needles. Determinations of the melting point and nitrogen content in five cases gave the following results:—

	Melting point.	Nitrogen.
A	160° C.	17·35 per cent.
B	160° C.	17·31 "
C	162° C.	17·50 "
D	159° C.	17·70 "
E	162° C.	17·90 "

The melting point of the osazone showed that the sugar was not dextrose or lævulose, and suggested that it was a pentose, while the nitrogen content tended to confirm this conclusion since it corresponded closely to the theoretical yield for a pentosazone (17·61 per cent.). Alcoholic solutions of the osazone were found to be strongly lævorotatory, the lævorotation (–43°) corresponding to that of a similar solution of xylosazone (–43·4°).

To confirm the nature of the pentose the double cadmium xylonobromide was prepared by Bertrand's method.[2] Four grammes of the residue from the alcoholic extract obtained from the dextrin as in the preparation of the osazone were dissolved in 20 c.c. of water, 10 grammes of cadmium carbonate added, and 5 grammes of bromine introduced. The mixture was gently warmed on a water bath, left for 24 hours, and subsequently evaporated to dryness. The residue was extracted with 40 c.c. of water, filtered, evaporated to half its bulk, and mixed with an equal volume of absolute alcohol. A precipitate of small prismatic crystals separated out. This was filtered off and its composition determined. In one case, which may be quoted as an example, 0·8 gramme of the salt was found to give 0·4042 gramme of silver bromide corresponding to 21·5 per cent. of bromine, the theoretical yield for $(C_5H_9O_5) - Cd - CdBr_2 . 2H_2O$ being 21·39 per cent.

The nature of the pentose present in the solutions prepared in the manner described in the previous paper from urines giving a characteristic "pancreatic" reaction was investigated in a similar way, and it was found that in the melting point, the rotatory power of its osazone, and in its reactions with Bertrand's test, it had the characters of xylose, thus corresponding to the pentose obtained from the dextrin. To confirm the inference that the pentose obtained on hydrolysing certain urines with dilute hydrochloric acid was derived from the urinary dextrin a quantitive method for estimating the pentose was devised. This is a modification of Jolle's method for estimating pentoses,[3] distillation with steam being used instead of direct distillation, and the results being expressed in cubic centimetres of centinormal iodine solution. By substituting steam for direct distillation it was found that the difficulty arising from the presence of most other sugars than the pentoses could be overcome. The addition of dextrose up to as much as 15 per cent. to a normal urine caused no furfural to pass over in the distillate. Lactose and maltose give similar results. With lævulose traces of furfural appeared when a 2 per cent. solution was employed, and larger quantities gave a steadily

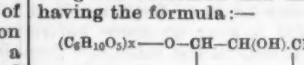
[2] Bulletin de la Société Chimique, 1891, pp. 546, 554.
[3] Sitzungsberichte der Wiener Akademie, Band cxiv., p. 1191, 1905.

increasing yield. We have found, however, that the lævulose met with in diabetic urines, unlike that of plant origin, can be removed from acid solutions like glucuronic acid with basic lead acetate, so that by treating the hydrolysed solution with this substance before it is submitted to steam distillation the lævulose and any glucuronic acid set free in the hydrolytic process are removed. With arabinose and xylose each 0·1 gramme of the added pentose was found to correspond with 30–35 c.c. of centinormal iodine.

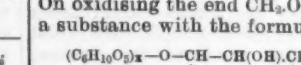
The details of the method were described in a paper read by one of us in the Medical Section of the International Medical Congress held in London last year (1913). This process was applied to a series of over 40 urines and the dextrins prepared from similar quantities of the same urines with the following results:—

Urine: iodine value.	Dextrin: iodine value.	Difference.	Per cent. difference.	Urine: iodine value.	Dextrin: iodine value.	Difference.	Per cent. difference.
181	155	26	14·4	50	42	8	15·2
180	156	24	15·3	47	42	5	10·6
150	126	24	16·0	45	39	6	15·3
144	122	22	15·2	45	38	7	15·5
130	111	19	14·6	45	39	6	15·3
117	100	17	14·5	42	35	7	16·7
110	93	17	15·4	37	30	7	18·7
108	90	18	16·6	36	30	6	18·6
106	91	17	15·7	35	30	5	14·3
102	88	14	13·8	34	30	4	11·8
100	84	16	16·0	22	18	4	18·2
91	78	13	14·3	20	18	2	10·0
87	74	13	14·9	16	14	2	12·5
87	75	12	13·8	12	10	2	16·7
70	60	10	14·3	11	10	1·0	9·1
70	60	10	14·3	10	9·5	0·5	5·0
70	60	10	14·3	10	9·0	1·0	10·0
70	60	10	14·3	8	6·5	1·5	18·58
67	57	10	14·9	5	4·0	1·0	20·0
58	59	9	15·5	2·5	2·0	0·5	20·0
57	48	9	15·8	0·0	0·0	0·0	0·0
57	48	9	15·8				
54	47	7	15·1	Average	—	7·1	14·5

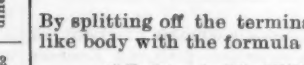
The discovery of a process by which the dextrin in a urine can be estimated, even in the presence of sugars, if free pentoses have been excluded by preliminary tests, has enabled us to investigate the occurrence of this body in diabetes and other pathological conditions and also to watch the variations that occur in different circumstances. The process is not sufficiently delicate to detect the trace of dextrin present in normal urines and we have found that the urine of healthy individuals has an "iodine coefficient" of nought. When carbohydrate metabolism is being imperfectly carried out a high iodine coefficient is obtained. If, however, the interference with carbohydrate metabolism is such that sugar appears in the urine, a previously high iodine coefficient usually falls, to rise again when the sugar disappears. In many cases of persistent glycosuria, too, this movement of the iodine coefficient and the sugar excretion in opposite directions has been observed, a rise in the one being accompanied or preceded by a fall in the other. In severe cases of diabetes, where more sugar is being excreted in the urine than would be accounted for by the carbohydrate taken as such in the food, particularly when a fatal termination is close at hand, the course of the iodine coefficient of the urine and the sugar excreted follow each other. These observations suggest that the urinary dextrin is probably a derivative or antecedent of glycogen intermediate between that substance and dextrose. In the former case, if the body still possesses the power of breaking down glycogen to a polysaccharide of low molecular weight, but this, instead of being converted into dextrose, which in its turn would give rise to CO_2 and H_2O, suffers irregular oxidation and may give rise to a body having the formula:—



On oxidising the end $CH_2.OH$ group we should have a substance with the formula:—



By splitting off the terminal CO_2 group a dextrin-like body with the formula:—



would result. This corresponds to one of the alternative formula—$(C_6H_{10}O_5)_n.C_5H_9O_5$—which our analysis of the urinary dextrin suggests is probable for that body.

It is also possible that the urinary dextrin may result from an incapacity on the part of the tissues to form glycogen from dextrose, the process stopping short at the intermediate dextrin stage. In support of this view we have the fact that in mild and intermittent cases of glycosuria the iodine coefficient of the urine vanishes on a carbohydrate-free diet to reappear again when dextrose is added to the food in insufficient amount to bring about a return of the glycosuria, suggesting that when the glycogen stores of the body have been reduced by the exclusion of carbohydrate from the diet the tissues recover to a certain extent their powers of building dextrose into a more complex molecule, but cannot carry all of it beyond the dextrin stage. We have also found in cases of hepatic disease, in which dextrose can be utilised but in which lævulose and lactose give rise to "alimentary" glycosuria, that the ingestion of dextrose is not associated with an increase in the iodine coefficient of the urine. When, however, either of the other sugars is given in sufficient amount the iodine coefficient rises, suggesting that dextrose can be converted into glycogen, but that part of the lævulose and lactose can only be carried to the dextrin stage, some being excreted in an even less completely metabolised condition.

NORTH-EAST LONDON CLINICAL SOCIETY.—At the first meeting of the ensuing session, which will be held on Thursday next, Oct. 1st, at 4 P.M. at the Prince of Wales General Hospital, Tottenham, Sir John Collie will give the opening address.

UNIVERSITY OF GLASGOW.—Dr. Walter James Dilling, of Aberdeen, has been appointed to the newly-founded Robert Pollok Research Lectureship in Materia Medica and Pharmacology in the University of Glasgow. Dr. Dilling was formerly Professor Kobert's assistant at Rostock, and he revised (for the ninth edition) Dr. Mitchell Bruce's "Materia Medica and Therapeutics." He has published many memoirs and articles on pharmacological subjects.

A CASE OF EXTRA-UTERINE PREGNANCY WITH PROLONGED RETENTION OF THE FŒTUS.

BY ELLEN M. FARRER, M.B., B.S. LOND.,
PHYSICIAN AND SURGEON TO THE ZENANA MISSION HOSPITAL, BHIWANI, PUNJAB.

IN THE LANCET of June 20th, 1914, p. 1748, there is a report of three cases of advanced extra-uterine pregnancy by Dr. R. Seheult, in two of which the fœtus appears to have been retained within the abdomen for a year or more before operation—in one for seven, in the other for five months after its death, which seems in each case to have occurred at about the seventh month. In the following case also the fœtus would seem to have died at the seventh month, but must have been retained for at least two years; and it had also undergone putrefaction, which does not seem to have occurred in Dr. Seheult's cases.

The patient, a Mahommedan woman of about 25 years of age, was first admitted into the Zenana Mission Hospital, Bhiwani, Punjab, on Feb. 6th, 1913, with an abdominal tumour, fever, and the following history. She had no children, but a year ago was apparently seven months pregnant. According to her statements there was then milk in the breasts and she felt fœtal movements. But during the seventh month she fell against a low bed, and after this the abdomen ceased to increase in size, and the catamenia reappeared, but were rather scanty, lasting three or four days, with some pain. Examination (in February, 1913) showed an apparently central hypogastric tumour of firm consistence, extending upwards about an inch above the umbilicus. Neither fœtal heart sounds nor uterine souffle could be detected. Per vaginam no fornix pulsation could be felt, and a hard swelling seemed to occupy the pelvis, slightly more to the right side than the left, and apparently connected with the cervix, which was somewhat soft and purplish-looking. The right Fallopian tube was easily palpated. The uterine sound was found to enter half an inch beyond normal length, turning towards the left side, and the cavity of the uterus seemed to be somewhat enlarged. There was no cachexia or emaciation.

The patient remained under observation for a week, during which time her temperature was of "hectic" type, ranging from about normal to 102·8° F. It seemed possible that this might be due to tuberculous disease of the lungs, for though well-nourished she gave a history of fever and cough for six months, and doubtful physical signs were detected at the right apex. After a week's stay she refused operative treatment and left the hospital. She was readmitted on March 17th, 1914—i.e., more than a year later—complaining of sterility, dysmenorrhœa, and pelvic pain, which she now said had been present for two years and five months—i.e., since the growth of the fœtus had ceased. There was now no fever and no obvious abdominal tumour, but on bimanual examination a mass could be felt mainly on the left side, dragging the uterus over in that direction. She was in good general condition, with no chest symptoms, and was now anxious for operation, which was performed on March 23rd, 1914.

Operation was as follows. On exploring the lower abdomen the mass above mentioned was found to be the sac of an extra-uterine fœtation, all the lower part of which was densely adherent to the surrounding viscera, so that its anatomical relations could not be defined. It ruptured during removal, and the contents were found to be putrid, with very offensive odour. The fœtus was disintegrated and represented only by separate cranial bones, ribs, &c., in a necrosed condition. In attempting to separate a thickened portion of the sac, probably representing the placental site, from the colon a large rent was made in the latter. The thickened edges of this were pared and secured with a double row of sutures; and as it seemed impossible to extirpate the whole of the sac, an attempt was made to suture the remains of its wall into the lower angle of the abdominal wound, where a large drainage-tube with a gauze wick and some gauze packing were inserted, the rest of the wound being closed with through and through sutures.

With regard to the after-progress, the patient's temperature rose the night after the operation to 102° and her pulse was 108 per minute. As it seemed obvious that she could not have escaped severe septic infection, 50 c.c. of antistreptococcic serum (B. W. and Co.) were injected next day, and she was kept in Fowler's position, with saline injections, &c. There was a little bronchitis at the end of the first week, and the patient continued very ill for about a fortnight, her temperature scarcely ever dropping below 100° at any time and varying from 101° to 103° in the evening; the pulse ranged from 100 to 120, but by April 2nd it had dropped to 96. There was very profuse suppuration from the remnants of the sac, and for a long while the dressings had to be changed twice daily, the pus being so offensive that it was feared a fæcal fistula must be forming. The patient escaped this complication, but had considerable pain in the left lumbar and hypochondriac regions, apparently due to the formation of a secondary abscess there, for it gradually subsided after the introduction of a drainage-tube along a track which was found to extend in that direction from the abdominal wound. This was gradually shortened, and finally left out on May 18th. Convalescence was prolonged, and the temperature continued to show an evening rise, usually to 99°–100°. On May 15th it rose suddenly to 104·2°, and on the 21st to 103·2°, probably owing to malaria. But when the patient left hospital on May 29th she appeared to be in fair health with no pain anywhere, and the wound was practically healed.

The special interest of this case lies in the length of time the fœtus must have remained encysted in the abdominal cavity without giving rise to urgent symptoms, in spite of its having undergone putrefaction. It would seem as if the patient must have developed a partial immunity to the septic infection; for her temperature, which was swinging at the time of her first sojourn in hospital, was normal (97·4°–99°) when she was readmitted a year later, and her general condition was good. The source of the putrefactive organisms was probably the bowel, from which they may have gained access to the fœtus *vid* the placental site, or possibly through a small perforation there in the midst of the adhesions.

I am indebted to my colleague, Dr. M. R. Bisset, for the notes of the case during the patient's former stay in the hospital.

Punjab, India.

Reviews and Notices of Books.

Infant Feeding.

By CLIFFORD G. GRULEE, A.M., M.D. Second edition, thoroughly revised. Illustrated. London and Philadelphia: W. B. Saunders Company. 1914. Pp. 314. Price 13*s.* net.

A second edition of Dr. C. G. Grulee's work on the feeding of infants will be welcome both to students of infant mortality and to professional experts; but the work is altogether of too special a character to be of general use to the medical practitioner. It is a book written after the German scientific manner and in the most modern of ultra-laboratory styles. It represents, in fact, an Americanised version of the Czerny-Finkelstein-Keller school of thought. Exaggerated importance is attached to the results of animal experimentation and isolated clinical researches. Momentous problems in metabolism, which are subservient to the ever-changing factors of habit, experience, and idiosyncrasy, are regarded as amenable to solution on the most fragmentary scientific data. On one point, however, most of his English readers will agree with Dr. Grulee—namely, that for the successful management of infants the skill of the physician in interpreting the personal and individual factor in the child experimented upon is a matter of overwhelming importance.

So far as the artificial feeding of infants is concerned, the author's articles of faith can be summed up in a few words. He believes in the moderate dilution of a clean milk, which should be boiled or pasteurised. He does not believe in the addition of supplementary cream, but in the addition of dextrinised fruits or decoctions of mixed carbohydrates. He strongly advocates the long interval between feedings (four hours for preference), and rather large quantities of the food itself. While appreciating the educational value of the accurate percentage method and the quantitative control by Rubner's calorie determinations, he attaches little practical importance to the slavish following of these methods in actual practice; both of them, however, he regards as of value in safeguarding the infant against the ever-present and serious consequences of over-feeding. The great merit of Dr. Grulee's methods clearly lies in their simplicity and ease of application.

Although many of our own authorities will agree with the majority of the views expressed in this book, some of them are distinctly open to question, while others are clearly at variance with opinions held in this country. It is probable that most of his English readers will hold with Dr. Grulee that bacteriological explanations of the causation of summer diarrhœa are unconvincing, and that more is to be expected from the modified heat-stroke theory; and it is not to be expected that many will quarrel with him for dismissing the fat-starvation theory as an unsatisfactory solution for the problem of the causation of rickets. But, on the other hand, we cannot agree with Dr. Grulee that an infant will stop crying when the cause of complaint has been discovered and removed. So far from this being the case, we know that infants will cry from habit as well as from suggestion, and that increase of appetite in this respect seems to grow from what it feeds on. It is often a work of supererogation to try to discover the logic of an infant's cry. To be still further hypercritical, we do not think that the author attaches nearly sufficient importance to the disturbances of motor functions from which infants suffer. Colic and so-called wind are more often due to enterospasms and dysperistaltic movements than to anything else; so that we cannot help regarding it as a distortion of the facts to claim that wind and colic can in their ultimate analysis be referred to vasomotor disturbances, although, no doubt, circulatory abnormalities play an important part in the etiology. Neither can we agree with the simple explanation that the author offers of the undoubted efficacy of hot fomentations and stupes applied to the abdomen in cases of colic. He believes that these measures cause a cessation of pain by a derivation of blood from the lower depths to the superficial areas. The influence of the nervous factor is here, as elsewhere, ignored.

We cannot commend the advice to give the newly born infant sips of water sweetened with saccharine. The importance of vigorous sucking on the part of the hungry and thirsty infant on the involution of the uterus and on the evolution of the breasts is so great that we view with apprehension advice of this kind which is calculated to divert attention from so important a matter. In the same connexion we might point out that it is by no means certain that the elaboration of milk is promoted by long intervals between feeding. It is generally believed now that most of the milk is manufactured actually at the time of suckling when the draught comes in. Whether this be so or not, it is quite certain that many mammary glands which are small, soft, and flaccid between feedings supply an unexpectedly large quantity of milk, while large breasts which become hard and distended during the intervals are often most disappointing milk-producers. On p. 128 we notice the curious statement that "peptonisation of milk is much less used than formerly, due to the decided change of opinion in regard to the harmfulness of the protein." According to the idea of the author, peptonisation is never necessary. We were quite unaware that peptonisation with pepsin was ever a method employed in infant feeding, at least as described to these pages, although undoubtedly there is an increasing number of medical men in this country who employ the method of pancreatisation with the most satisfactory results in difficult cases. The pancreatisation must, however, be carried much further *in vitro* than the 20 minutes which the author suggests is all the time required for the peptonisation of milk.

Apart from these few points, we regard Dr. Grulee's book as one which most ably represents a sound school of thought.

Gas Poisoning in Mining and other Industries.

By JOHN GLAISTER, M.D. Glasg., Professor of Forensic Medicine in the University of Glasgow, and D. D. LOGAN, M.D. Glasg., Surgeon to the Coltness Ironworks. Edinburgh: E. and S. Livingstone. 1914. Pp. 471. Price 10*s.* 6*d.* net.

A RELIABLE monograph on carbon monoxide poisoning, the conditions of its occurrence, its prevention, and its treatment, has long been in demand. Cases of poisoning by this and other gases must occur almost daily at ironworks, steelworks, and collieries throughout the country, while the great increase of gas engines and the long distances which gas is conveyed give ample opportunities for major and minor degrees of

accidents, the true nature of which must often be overlooked. Much investigation of the poisonous effect of different gases under different conditions has been undertaken in this country—notably, of course, by Dr. J. S. Haldane—but the results are in many cases contained in Blue-books or in publications such as the *Journal of Physiology*, to which medical men in general may not readily have access; while a large number of cases of gas poisoning of one kind or another which have been reported at different times or have come to notice through legal proceedings or compensation claims badly needed collecting and codifying. Professor Glaister and Dr. Logan have not only brought this material into the compass of a single volume, which is replete with information on all branches of the subject, but they have greatly added to the value of the work by the large amount of practical detail, the result of special experience, which they have incorporated with it.

We can cordially commend the volume, which should be in the hands of all practitioners whose work takes them among operatives, labourers, and others who are liable to be exposed to the risks of poisoning by carbon monoxide or other gases.

A Practical Handbook of the Tropical Diseases of Asia and Africa.

By H. C. LAMBART, M.A. T.C. Dub., M.D., Physician to the Gold Fields, Sudan; late Medical Officer to the Johore Government, &c. London: Charles Griffin and Co. 1914. Pp. 324, with 6 coloured plates and 32 other illustrations in the text. Price 8*s.* 6*d.* net.

THIS handbook embodies among other things the author's long experience of tropical diseases gained in various parts of Asia and Africa. The arrangement of the maladies is alphabetical, so that the reader can at a glance ascertain particulars of the diagnosis and treatment of any disease to which he wishes to refer. Separate sections are devoted to certain subjects, such as aids to diagnosis, bacteriological methods, special diets, geographical distribution of some tropical affections, fevers, eye diseases, and affections of the skin. Particular attention has been given to the subject of treatment, and in a "therapeutic index" Dr. Lambart suggests lines of treatment and the use of such remedies as have been found in his own experience in practice to be of value. The main facts relating to each disease are given in a condensed form, efforts having been made to avoid allusion to disputed points which have not yet been satisfactorily settled. The volume has been kept within handy proportions, such as will allow of its being carried about in the medical man's pocket for reference if required.

While Dr. Lambart has on the whole acquitted himself well in the performance of his task, there are a few statements to which exception may be taken by some. For instance, it is hardly correct to say that "rice poisoning" as the alleged cause of beri-beri has now the largest number of supporters. Dr. Lambart makes use of the obsolete term "ptomaine poisoning" in place of "bacterial food poisoning" now commonly employed, and he does not mention that bacilli of the Gaertner type are the usual cause of such cases. It is incorrect to imply, as Dr. Lambart apparently does, that the common method by which plague is spread is by fæcal pollution of the wound made by the flea in biting or fæcal pollution of the flea's proboscis. This method may no doubt occasionally occur, but it is not the usual one, as has been demonstrated by Bacot and Martin. We do not agree with Dr. Lambart's opinion as to the therapeutic virtues of Haffkine's prophylactic fluid in plague; and, on the other hand, we think he does not give sufficient emphasis to its great prophylactic value. It is surely incorrect to give the "quarantine period for plague as 21 days from the date of exposure." These and other small defects will no doubt be corrected by Dr. Lambart in the next edition.

This little volume, we think, is likely to prove of service to the student or practitioner of tropical medicine who wishes to obtain a ready reference to the main facts respecting the diagnosis and treatment of any tropical disease in which he is interested. The book is well printed, and some of the illustrations have been drawn from life by the author himself.

The Philosophy of Biology.

By JAMES JOHNSTONE, D.Sc. Cambridge: At the University Press. 1914. Pp. 391. Price 9*s.* net.

THE author of this work is a disciple of Bergson and Driesch, and presents an interpretation of a number of broad scientific problems in the light of the theories of those philosophers. He is, in short, animated by the ambitious desire to slay the dragon of scientific materialism and mechanism; and although some of us may look upon the attempt as quixotic, Dr. Johnstone sets up an able and vigorous defence of the metaphysical view, which can scarcely be ignored by the materialistic school.

The conception of a living organism as a mere machine, although of almost infinite complexity—a machine in which every process is induced by ordinary physico-chemical means—is one that is very generally adopted by physiologists, but has never found favour in England among the general reading public. Many arguments have at various times been brought against it. It was alleged to conflict with the first law of thermodynamics; and the allegation only lapsed when it was experimentally proved that the energy given out by an organism was precisely equal to that absorbed. Dr. Johnstone now cites against it the second law of thermodynamics, endeavouring to show that the energy-conversions within the organism are attended with a smaller dissipation of heat than that law would demand, and suggesting that minute organisms may possess some directive intelligence which will enable them to act like Clerk Maxwell's demons, and utilise the impacts of high-velocity molecules in Brownian movement for the accumulation of energy. The suggestion is interesting, if only as showing into what deep water the vitalists descend, discarding their earlier and simpler arguments.

Dr. Johnstone is somewhat inclined to assume that a destructive criticism of individual mechanistic theories is sufficient to subvert the entire mechanistic philosophy. Science proceeds by hypotheses, and as knowledge advances many such hypotheses necessarily have to be discarded; but it does not follow that because this, that, or the other hypothesis is erroneous, therefore no materialistic explanation is practicable. Dr. Johnstone thus attacks Weismann with considerable success; but he is doubtless aware that many mechanistic biologists never have believed in Weismann. Similarly he attacks Loeb; but the truth or error of certain of Loeb's suggestions is scarcely relevant

to the larger question. He endeavours to show the inadequacy of natural selection to account for evolution; but here, again, materialism is no more bound up with natural selection than vitalism is bound up with metempsychosis; and, indeed, a great many materialistic biologists have always denied the omnipotence of natural selection. On the other hand, Dr. Johnstone cites arguments from Bergson against mechanism, which have already been fully answered by Sir Ray Lankester and other mechanistic biologists. He quotes arguments from Driesch which were demolished at length in *Science Progress* of January, 1912. He goes out of his way to attack epiphenomenalism, apparently unaware that it has already been abandoned by all mechanists who have closely studied that theory. He attacks the mechanism of last century rather than the mechanism of this century. Nevertheless, his book is conspicuous both for its wide knowledge and its ability, and is a valuable contribution to the most important of all philosophic problems. A few misprints may be noted—e.g., nineteenth century for twentieth century (p. 221); a note without anchorage in the text (p. 224); efferent for afferent (p. 273).

Principles and Practice of Operative Dentistry.

By JOHN SAYRE MARSHALL, M.D., Sc.D. Syr. Univ. Fourth edition. London and Philadelphia: J. B. Lippincott Company. 1914. Pp. 698. With 725 illustrations. Price 21*s.* net.

THE title of this work is certainly modest, inasmuch as we find in its pages a very full and excellent account of the anatomy and pathology of the teeth, in addition to a description of the various operations performed in dentistry. The part which deals with anatomy is beautifully illustrated and has been brought well up to date, for it contains ample reference to Mummery's demonstration of the nerves in dentine. In the portion dealing with pathology the author might with advantage omit the rather full references to past views, and give the student a clear and concise account of the generally accepted view of the present day. The description of operative proceedings is, we consider, capable of improvement, and this part of the book might with advantage be retrenched. It is strange, indeed, in the present day to find the turnkey suggested as a useful weapon for the removal of teeth.

Diseases of the Nervous System for the General Practitioner and Student.

By ALFRED GORDON, A.M., M.D. Paris, late Associate in Nervous and Mental Diseases, Jefferson Medical College. Second edition, revised and enlarged, with 169 illustrations. London: H. K. Lewis. 1914. Pp. 618. Price 17*s.* 6*d.* net.

Dr. Gordon has written a plain and practical account of diseases of the nervous system in which only the most essential points, whether in pathology, symptomatology, or treatment, are presented. The latest views and discoveries have been incorporated, while controversial matter is omitted or relegated to a subordinate position.

There is an introductory chapter on the anatomy and physiology of the central nervous system and another on methods of examination. Then the diseases of the nervous system are discussed in order, beginning with the cerebrum and ending with the peripheral nerves and muscles. Functional nervous diseases and diseases of the sympathetic system are the titles of chapters which contain much matter not commonly thus described, but for which there is place in a text-book of this sort. Syphilis of the nervous system has a chapter to itself, as have the traumatic neuroses and the cerebro-spinal fluid, including lumbar puncture and the Wassermann reaction.

Many of the illustrations are good; others have done service so often in neurological books that it would be a relief to see them no more. The photographic reproductions are not always very satisfactory. Taken as a whole, the book contains a sound exposition of modern knowledge of nervous disease, and it is well calculated to fulfil its purpose of providing the student and practitioner with a text-book in which the viewpoint is their own and not that of the expert neurologist.

LIBRARY TABLE.

Leitfaden der Säuglingskrankheiten. By WALTER BIRK. Bonn: A. Marcus and E. Webers. 1914. Pp. 256. Price M. 4.80.—This is a practical little book, exclusively concerned in the recognition and treatment of the common complaints of infancy. The author acquired his knowledge of the subject as an assistant in Professor Czerny's clinic, and the impress of this school is apparent in most of the pages. It certainly merits translation into English, and in this form would be very useful to students and practitioners in this country. We doubt very much whether in its untranslated form medical men in England would find adequate compensation in the undoubtedly excellent advice which it contains, for the difficulties and confusion which German ideas, preparations, and weights necessarily entail.

The Clinical Examination of the Blood and its Technique: A Manual for Students and Practitioners. By Professor A. PAPPENHEIM, Berlin Translated and adapted from the German by R. DONALDSON, M.A., M.B., Ch.B. Edin., F.R.C.S. Edin., D.P.H., Pathologist to the Royal Berks Hospital, Reading, &c. Bristol: John Wright and Sons. 1914. Pp. 87. Price 3*s.* 6*d.* net.—This is a useful and practical little book, giving, as it does, clear directions for the examination of the blood according to one definite method recommended by the author. The making of blood-films and their fixing and staining are first described, the dyes used being the May-Grünwald solution of eosin-methylene blue followed by Giemsa's new formula. An account of the various kinds of corpuscles is then given according to Pappenheim's scheme, and the conditions met with in various diseases characterised by alterations of the blood-picture are next set forth. The two final sections of the book describe methods of hæmocytometry and hæmoglobinometry, and there is an adequate index. Two useful coloured plates are inserted at the beginning of the book, illustrating the different types of cells. We do not quite understand why the letterpress description opposite Plate I. deals with many of the figures appearing on Plate II., otherwise we have nothing but praise for the contents of the volume. It is to be hoped that some agreement may be shortly obtained as to the nomenclature of the cells met with in the blood, which is at present a source of considerable confusion to students; and there is much to be said for following Pappenheim's views as herein

set forth. Hence we hope the book may appeal to teachers and learners in this country.

Thomas Shortt, Principal Medical Officer in St. Helena. By ARNOLD CHAPLIN, M.D. Camb. London: Stanley Paul. Pp. 70. Price 2s. net.—Dr. Chaplin continues his researches into the medical history of Napoleon's residence at St. Helena. Our readers will remember his interesting little book, "The Illness and Death of Napoleon," which appeared in 1913.[1] The various British medical attendants of Napoleon had by no means an enviable position. On the one hand, they had to please and try to obtain the confidence of a patient who was really ill and in no position to cultivate that *æquanimitas* which is so valuable a possession for any sick man, while on the other they were exposed to the well-meaning but often tactless and hide-bound regulations and interference of Sir Hudson Lowe. In addition to details of the career of Shortt, Dr. Chaplin gives brief biographies of some of the other medical men who were associated with the illness of Napoleon—to wit, Rutledge, Henry, Verling, Arnott, O'Meara, Burton, and Baxter, but naturally Shortt, from his position as principal medical officer had the most difficult position to fill. Shortt had had a brilliant career before he went to St. Helena. Educated at Edinburgh, he entered the army in 1806 as assistant hospital surgeon when only 18 years old. He served in the Mediterranean, in Egypt, and in Sicily, and in 1815 after the war received the post of physician to the Forces when only 27. Placed on half pay, he settled in Edinburgh, but in 1820 was sent to St. Helena. His service there, with its trials and difficulties, must be read in Dr. Chaplin's interesting pages, together with the accounts given of the other medical men. Anything to do with Napoleon must always have an interest for the world, and it must be admitted that the story of St. Helena reflects but little credit either upon the France or the Britain of the time. However, if the medical side of the story is to be told, it is certainly clearly and dispassionately set forth in Dr. Chaplin's book.

[1] THE LANCET, Jan. 11th, 1913, p. 115.

JOURNALS AND MAGAZINES.

Journal of Pathology and Bacteriology. (Official Organ of the Pathological Society of Great Britain and Ireland.) Vol. XVIII., No. 4. Published from the Department of Pathology, University of Cambridge. Price 7s. 6d.; yearly subscription £1 1s.—N. S. Ferry, in a paper on the Bacteriology and Control of Acute Infections in Laboratory Animals, points out that B. bronchisepticus causes distemper in dogs, and also acute infections in the guinea-pig, rabbit, monkey, and ferret. Cultural and agglutination tests show that the organism is a distinct species; he notes that epizootics can be controlled and susceptible animals protected by the use of vaccines. A colon-like bacillus, probably B. enteritidis, was isolated from dogs suffering from an epizootic closely resembling an acute type of distemper. In a rapidly fatal epizootic disease of rabbits due to the bacillus of rabbit septicæmia, a prophylactic injection of vaccines appears to offer practically no protection.—W. Macewen, as the result of an Investigation concerning Döhle's Leucocytic "Inclusion Bodies" in Scarlet Fever and other Diseases, states that he has found the inclusion bodies, first described by Döhle in 1911, in cases of scarlet fever, diphtheria, serum sickness, measles, typhus, erysipelas, phthisis, and pneumonia. In German measles they were found in only 1 out of 40 cases, and he considers that their absence constitutes a differentiating feature between that complaint and mild cases of scarlet fever. Manson's borax methylene blue was found to be far the best stain for demonstrating the presence of these bodies.—W. Blair Bell, in a paper on the Causes of the Non-Coagulability of Normal Menstrual Blood and of Pathological Clotting, ascribes the failure of menstrual blood to clot to an unexplained absence of fibrin ferment.—R. Donaldson describes a Case of Puerperal Fever associated with the Enterococcus in a multipara. Mild puerperal septicæmia began on the eighth day after parturition; the patient recovered under autogenous vaccines. From the urine and from the inside of the uterus was recovered an organism, answering in all particulars to the enterococcus of Besson and Thiercelin. Blood cultures were negative.—Sheridan Delépine, in an Addendum to the Arsenious Jelly Method of Mounting Pathological Specimens, adds a few particulars to his description published in the last number of the journal.—M. A. Ruffer and J. G. Willmore, in a Note on a Tumour of the Pelvis dating from Roman Times (250 A.D.), describe, with illustrations, a tumour, probably osteosarcoma, starting in the cancellous tissue of the pelvis; the bone was found in the catacombs of Alexandria.—S. Wyard describes the Action of Asbestos Fibre on the Components of a Simple Hæmolytic System. He finds that various kinds of asbestos fibre placed in contact with amboceptor remove it at different rates, complement being removed at the same time. This power of asbestos fibre is diminished by steeping in normal saline, but can be restored by drying.—Hugh Maclean gives a Simple Method for the Preparation of Lecithin. A nearly pure product can be obtained by the author's method—viz., purifying crude lecithin obtained by alcohol extraction, emulsifying with water and treating with acetone. The product contains nitrogen and phosphorus in the ratio of 1: 1.—Charles Singer describes a Transplantable Sarcoma arising in the Uterus of a Rat.—In an article on the Regulations of the Blood Volume in Normal and Nephritic Animals A. E. Boycott points out that in rabbits rendered nephritic by the injection of uranium nitrate, after the intravenous injection of gelatin solutions of 1·6 per cent. and 3·2 per cent. strength, the blood volume is restored to normal more slowly than in normal animals. The same difference between normal and nephritic animals seems to hold for injections of horse plasma.—E. Emrys Roberts, from a study of ten cases of Status Lymphaticus, concludes that this condition is frequently associated with sudden death from respiratory failure; that it is by no means necessarily accompanied by an enfeebled constitution, and is not incompatible with full development and activity of the genital organs in the female; that the respiratory failure is not usually due to an enlarged thymus interfering with the vagus or inducing reflex spasm of the glottis; this is anatomically impossible unless the gland extends upwards and backwards, though in certain cases the enlarged thymus may cause symptoms by pressing on neighbouring structures. He doubts whether this latter group of cases should be classed with status lymphaticus, for operative interference and anæsthetisation are well borne by patients suffering from these conditions.—W. R. Logan, in an account of the Intestinal Flora of Infants and Young Children, describes in detail the cultural reactions of the bacilli found in the stools of babies fed at the breast alone, the bottle alone, the breast and the bottle, and of children on a mixed diet approximating more or less to the adult type. In the first class Gram-positive acid-tolerant bacilli predominate; in the second the lactose-fermenting organisms are more prominent, while the acid-tolerant bacilli are less common. The infants on breast and bottle show a mixture of all these types of organisms. The child fed on mixed adult diet shows a greater variety, and no one organism dominates the rest.—R. A. Chisholm, following up Boycott's work, on the Regulation of the Blood Volume in Experimental Nephritis, from a study of the effect of the volume of the blood of normal and nephritic rabbits produced by the injection of Ringer's solution of different strengths, draws the conclusion that in potassium chromate nephritis there is an alteration in the permeability of the capillary wall which hinders the passage of fluid from the vessels to the tissues.—B. H. Wedd, A. C. Morson, and S. Russ, working on the Immunity conferred upon Mice by Radium-Irradiated Mouse Carcinoma, find that mice can be rendered immune to the inoculation of mouse carcinoma by means of irradiated tumour cells, but that this power of conferring immunity is gradually lost as

length of time of irradiation is increased, and that 24 hours' exposure destroys it, although the irradiated tumour cells still possess the power of proliferating for a short time after inoculation. These authors assert that there is reason to suppose that the frequency of recurrence of the tumour after its removal by operation is lessened by reinoculation with irradiated tumour.—Dr. Myer Coplans contributes three papers, one a Description of a Heat-compensated Conductivity Salinometer, an apparatus compensated for measuring the salinity of sea water by means of the alteration in conductivity; a second on a Continuous Type of Centrifugal Separator with Automatic Self-cleansing Mechanism, designed for the separation of liquids from solids, and fitted with a mechanism for automatic cleansing and for the discharge of the separated solids; and a third on Gel Filtration of Ultra-Microscopic and other Particles, the Action of Asbestos, in which the author points out that aluminium hydrate mixed with floss asbestos is capable, under certain conditions, of restraining, by action not entirely mechanical, the passage through a filter of a wide range of substances, such as albumin, tetanus toxin, and methylene blue.—A. Stanley Griffith records Further Investigations on the Strains of Tubercle Bacilli isolated from Cases of Lupus, based on an examination of tubercle bacilli from 25 cases of lupus. In 12 the results, both cultural and by inoculation, pointed to a bovine virus; in 13 the virus was found to be of the human type.

The American Journal of Tropical Diseases and Preventive Medicine. Vol. I., No. 12. (The Official Organ of the American Society of Tropical Medicine.) This number, which is more than usually interesting, completes the first volume of the journal. It contains four editorials and no less than seven original articles. The first of the editorials is written by Dr. A. McShane, and in it is discussed the phlebotomus papataci, the insect transmitter of the "three days fever."—The second editorial, by the same writer, deals with the claims put forward by Dr. Chas. F. D'A. Francis, of Brooklyn, that he has discovered a new form of treatment for cancer. He administers desiccated thyroid gland followed by a mixture containing certain salts along with hæmoglobin and cholesterin. By this method, he asserts, he has cured a dozen cases of cancer, some of them inoperable. The treatment is said to prevent proliferation of the cancer epithelium and hæmolysis, to increase oxidation, and to favour the action of the protective ferments.—Dr. Howard D. King, of New Orleans, in the third editorial, discusses the present Mexican situation and the probable consequences of a war between the United States and Mexico, viewed from the medical standpoint; such a conflict would, in his opinion, be inevitably followed by a frightful visitation of epidemic disease.—The last editorial is furnished by Dr. Wm. H. Deaderick on the South African Antimalarial Association, from which body the writer suggests that America might, if it would, learn useful lessons. He considers the leaflets and other printed matter circulated in South Africa by the Association "the most valuable literature for proper enlightenment on malaria that has ever been prepared."—In the original articles some further remarks on beri-beri are contributed by Captain Edward B. Vedder, of the Medical Corps of the United States Army, who deals with certain reported instances in which it is alleged that beri-beri occurred nothwithstanding the use of a liberal and varied diet, and on which cases it is argued that they afforded proof that beri-beri was not a deficiency disease. Captain Vedder refutes most of the arguments, and also points out that much of the evidence as to diet put forward is too vague and unsatisfactory to be used as the basis of argument.—Dr. H. R. Carter, senior surgeon to the United States Public Health Service, in the next original article discusses some educational methods for use in antimalarial work. He expresses the opinion that it is not so much research on malaria that is now needed in the United States, but rather education of the people and explanation to them of the best methods of getting the necessary antimalarial work done. It is field work that is wanted most at the present time in America.—Surgeon R. H. von Ezdorf writes on the subject of malarial investigations in the United States, carried out by members of the Public Health Service. He gives a brief account of the present and contemplated activities of that service as regards malaria.—Dr. Isaac W. Brewer supplies some "thoughts" upon the prevention of malaria and its relation to the drainage of swamps and other collections of water.—The last three original articles are contributed by Dr. Nathan Barlow (Honduras). These deal respectively with the administration of emetine to young and debilitated children, rheumatic malarial fever, and ulcus interdigitale fœtidum.

POST-GRADUATE STUDY.

POST-GRADUATE study is divided into three main divisions—the general study of professional subjects (including the special study of some branch), the study of State medicine, and the study of tropical medicine. The following article shows the principal arrangements existing for general post-graduate instruction for the coming year, but some of the arrangements will fall through owing to the war.

LONDON.

Medical Graduates' College and Polyclinic.—This institution affords to medical practitioners special facilities for acquiring technical skill and for advancing their clinical and scientific knowledge. The building contains lecture- and consulting-rooms, a pathological and clinical laboratory, a Roentgen-ray room, an ophthalmoscope-room, a museum, a library and reading- and waiting-rooms, &c. Cliniques are given on each working day of the week except Saturday at 4 P.M., and a lecture on medicine, surgery, or their special branches, is delivered daily except on Fridays and Saturdays, at 5.15 P.M. Practical laboratory instruction in the various branches of Clinical Pathology is also provided. Classes are also held in Otology, Laryngology, Rhinology, Ophthalmology, Radiography, Anatomy, Nervous Diseases, Microscopy, Urinary Analysis, Gynæcology, Practical Bacteriology, Sigmoidoscopy, Cystoscopy, Mental Diseases, Hygiene and Public Health, and Operative Surgery. Extra classes in any subject are formed to suit the convenience of practitioners unable to attend those already provided. Special tutorial classes are held for practitioners reading for the higher examinations. The annual subscription for medical practitioners of either sex is 1 guinea. Full information can be obtained from the Medical Superintendent at the College, 22, Chenies-street, Gower-street, W.C.

The Hospitals of the Seamen's Society.—In connexion with these hospitals there are two post-graduate schools—viz., (*a*) the London School of Tropical Medicine; and (*b*) the London School of Clinical Medicine.

(*a*) *The London School of Tropical Medicine.*—The school buildings, laboratories, museum, library, &c., are within the grounds of the Branch Hospital, Royal Victoria and Albert Dock (Station, Connaught-road, Great Eastern Railway). Opportunities are afforded to students and others who may be desirous of studying diseases incidental to tropical climates before entering the service or going abroad. In the hospitals of the society are to be found cases of tropical diseases such as may be met with in actual practice in the tropics. During the year the School has been greatly enlarged. A new laboratory, capable of accommodating 60 students and equipped in the very latest manner, has been added, and the old laboratories have been subdivided into special laboratories, preparation rooms, director's room, and incubation rooms, &c. The resident accommodation for students has also been greatly increased, and it is hoped that there is now sufficient accommodation for all who desire to live at the School. A new course in tropical sanitation and hygiene has been inaugurated and will occupy about three months twice every year. There are three courses in the year, each lasting three months, beginning on Oct. 1st, Jan. 15th, and May 1st respectively. The laboratory, museum, library, &c., are open daily, and clinical instruction is given daily in the wards of the hospital. The School Course is recognised by the University of Cambridge for its Diploma of Tropical Medicine and Hygiene. Classes are arranged for advanced Helminthology, Protozoology, and Entomology. The lecturers in the School are: Sir P. Manson, F.R.S., Dr. C. W. Daniels, Dr. G. C. Low, Dr. L. Westenra Sambon, Dr. J. M. H. Macleod, Professor R. Tanner Hewlett, Mr. James Cantlie, Colonel J. J. Pratt, Mr. E. Treacher Collins, Dr. F. M. Sandwith, Mr. K. W. Goadby, Dr. H. Williams,

Professor W. J. Simpson, Colonel A. Alcock, I.M.S., C.I.E., F.R.S., Dr. R. T. Leiper, Dr. J. G. Thomson, and Dr. B. H. Wedd. The Director is Mr. H. B. G. Newham. Dean, Sir F. Lovell. Certificates are granted after examination to those who complete a full course. Students must be qualified or in the fifth year of their medical studies. Prizes: the Hon. Edward John Stanley Memorial Fund, £60, the Wandsworth Scholarship, £350, and the Duncan Medal. Syllabus and full particulars can be had from the Secretary, Mr. P. J. Michelli, Seamen's Hospital, Greenwich, S.E.

(*b*) *The London School of Clinical Medicine* (for qualified practitioners only).—Owing to the absence of a large proportion of the staff on various war duties no attempt at the teaching of clinical subjects will be made in the coming session (October–May). Operative Surgery and Pathology Classes will be held as usual. The lecture rooms, pathological laboratories (several), museum, and operative surgery class rooms are in the *Dreadnought* Hospital at Greenwich, and the whole hospital of 250 beds with its out-patient departments is open to students from 10 A.M. till 5.30 P.M. Medical, Surgical, and Special Department In-patient Clinics are held every afternoon except Saturday by the senior members of the staff, and operations are performed daily, whilst out-patients in the Medical, Surgical, and Special Departments are demonstrated by the assistant physicians and assistant surgeons daily in the forenoon. Two sessions are held yearly, one from October to February (five months), the other from April to July (four months), but the teaching is so arranged that students may join at any time. Every variety of disease may be studied in the wards and out-patient rooms of the hospital, at the dispensaries, and at the affiliated hospitals. Arrangements have been entered into with the Royal Waterloo Hospital for the reception of graduates who desire instruction in Diseases of Women and Children; with the Bethlem Royal Hospital for those who require tuition in Mental Diseases. These hospitals are situated on the south side of the river, are directly linked to the *Dreadnought* by both railway and tramway, and are affiliated to the London School of Clinical Medicine. Arrangements have also been made whereby certain members of the staff of the Miller General Hospital for South-East London have joined the list of extra-mural teachers, and will place their clinical material at the disposal of the students. The certificates of the School are recognised by the Admiralty, the War Office, the India Office, the Conjoint Examining Board of the Colleges of Physicians and Surgeons (for Operative Surgery), the Colonial Service, and the University of London (for the higher degrees). The supply of material affords exceptional facilities for practical instruction in Operative Surgery on the cadaver and in Pathology. The hospital also offers a wide field for the study of Venereal Diseases, and there is a special department with open-air wards for the treatment of Tuberculosis.

The teaching staff consists of: Sir Dyce Duckworth, Bart., Dr. Frederick Taylor, Sir John Rose Bradford, K.C.M.G., F.R.S., Professor R. Tanner Hewlett, Dr. Guthrie Rankin, Dr. S. Russell Wells, Mr. William Turner, Mr. Lawrie H. McGavin, Mr. E. Rock Carling, Mr. C. C. Choyce, Mr. L. Vernon Cargill, Sir Malcolm Morris, K.C.V.O., Mr. Richard Lake, Dr. Gordon Holmes, Lieutenant-Colonel Collis Barry, Dr. C. E. Zundel, Dr. H. B. Carlill, Dr. H. R. Prentice, Mr. P. P. Cole, Mr. C. Rowntree, Mr. E. G. Stanley, Mr. R. Bickerton, Dr. Henry McCormac, Mr. G. N. Biggs, Dr. Probyn-Williams, Dr. E. W. Gandy, and Dr. W. E. Robinson.

The extra-mural lecturers are: Dr. James Taylor, Dr. W. H. B. Stoddart, Professor W. J. R. Simpson, C.M.G., Mr. James Cantlie, Dr. Herbert Williamson, Mr. Herbert S. Pendlebury, Mr. Ivor Back, Dr. Alexander Haig, Dr. R. O. Moon, Dr. Charles O. Hawthorne, Dr. Thomas D. Lister, Dr. Harold Pritchard, Dr. A. S. Woodwark, Mr. Keogh Murphy, Mr. W. H. McMullen, Mr. W. Ashdowne, Mr. J. Cole Marshall, Dr. J. D. Barris, and Mr. Victor Bonney.

The Syllabus and other particulars of the School can be obtained on application to Mr. C. C. Choyce, the Dean, Seamen's Hospital, Greenwich, S.E.

West London Post-Graduate College, West London Hospital.—The West London Post-Graduate College was started in 1895, and three years later its basis was enlarged by the provision for the post-graduates of lecture-, reading-, writing-, and class-rooms, &c., while owing to the continued growth of the college these were transferred in 1901 to a building especially constructed for the purpose. Over 3000 post-graduates have been enrolled since its establishment, the yearly entry being now about 220. The hospital, which contains 160 beds, is in the main Hammersmith-road, about three miles from Hyde Park Corner, and very accessible by omnibus, tram, or train. The physicians and surgeons attend daily at 2.30 P.M. Post-graduates accompany the staff and the junior staff on their visits to the wards. Instruction is given in the out-patient department daily at 2.15 P.M. by the assistant physicians and assistant surgeons. The out-patient department has recently been enlarged, and there is ample accommodation for post-graduates to see and to examine the patients in all the special departments of the hospital. Clinical assistants are appointed from among the post-graduates to the Medical and Surgical out-patients and to the Special Departments. The fee for a clinical assistantship to non-members is £3 3*s.* for three months, which includes membership of the college on the days on which the clinical assistant attends. Practical classes, limited in number, for instruction in special subjects, as well as in medicine and surgery generally, are held as required. Operations are performed daily at 2 P.M. Post-graduates are allowed to stand close to the table and can see the operations perfectly. The surgeons often avail themselves of the assistance of post-graduates at operations. Instruction is given in the administration of anæsthetics by the anæsthetists on the operating days, and post-graduates are allowed to administer anæsthetics under their superintendence. Post-mortem examinations are performed at 2 P.M., and demonstrations on recent pathological specimens are given on Mondays at 12 noon during each session in the pathological laboratory. Demonstrations are given each week on Practical Medicine on Monday, Tuesday, Thursday, and Friday mornings. Practical lectures and demonstrations are given each morning and evening (except Saturdays) during the session. Included in this course are lectures by outside specialists on Mental Diseases and on Public Health, and in connexion with the former instruction is also given in certain asylums. The college is licensed for the teaching of operative surgery. The fee is £4 4*s.* each member in a class of four. The practice of the hospital is well adapted to the needs of medical officers of the Royal Navy and officers of the Royal Army Medical Corps, Indian Medical Service, and Colonial Service who have obtained leave for further professional study, and the certificate of attendance at the college during such leave is recognised by the Admiralty and other authorities. The college is recognised by the University of London for hospital practice before the M.D. degree and by the Royal College of Surgeons for the necessary work before the Fellowship examination. The pathological laboratory has recently been completely reorganised and placed in the hands of the pathologist, Dr. Elworthy, who attends there every day and gives instruction in Bacteriology and Microscopy. A special class meets on three mornings a week from 10 to 1, and post-graduates joining the class can work in the laboratory at other times under the guidance of the pathologist. A class meets 12 times and commences at the beginning of each month. The fee for this class in Bacteriology and Microscopy is £5 5*s.* The fee for the hospital practice including all ordinary demonstrations and lectures, is £1 1*s.* for one week, £3 3*s.* for one month, £6 6*s.* for three months, £10 10*s.* for six months, £15 15*s.* for one year, and £30 for a life ticket; all fees to be paid in advance. A practitioner who cannot attend the whole course may attend any ten lectures or demonstrations during the session for a fee of £1 1*s.* A vacation class is held each year in August, the fee being £3 3*s.* for the course of one month, including hospital practice. The fee for a three months' course of instruction in the administration of anæsthetics, including a special class, is £3 3*s.*, or without the class £2 2*s.* A ticket for any of the above courses will be issued at any date. Arrangements can be made for gentlemen working for higher university examinations to be coached. The Autumn Session will commence on Monday, Oct. 12th. All communications should be addressed to the Dean, Mr. Donald Armour, Post-Graduate College, or to Mr. Bishop Harman, Vice-Dean, West London Hospital, Hammersmith, W.

North-East London Post-Graduate College.—This post-graduate school is established in connexion with the Prince of Wales's General Hospital, Tottenham, N., which is recognised by the University of London as a place of post-graduate

study for the M.D. and M.S. degrees, by the Admiralty and the India Office for purposes of study leave, and by the University of Cambridge for the D.P.H. diploma in respect of bacteriology. Facilities are there afforded to qualified medical practitioners for taking part in the work of an active general hospital of 125 beds and for attending demonstrations in various branches of medicine, surgery, and gynæcology, with opportunities for clinical instruction in Diseases of the Eye, Ear, Throat, Nose, Skin, and Fevers, Psychological Medicine, the Administration of Anæsthetics, Radiography, and Dentistry. Cliniques, lectures, and demonstrations are given by members of the teaching staff in the lecture-room, in the wards, in the various out-patient departments, and in certain affiliated institutions. Operations are performed on every afternoon of the week except Saturday. Special limited classes are arranged in Modern Methods of the Study and Treatment of Diseases of the Lungs and Heart, Gynæcology, Diseases of the Throat, Nose, and Ear, Diagnosis of Diseases of the Nervous System, Ophthalmoscopy and Refraction, Diseases of the Skin, Abdominal Surgery, Radiography, Bacteriology, Clinical Pathology, Vaccine Therapy, and Medical Electricity. The fee for a three months' course of study, which may be begun at any time, in any single department, is 1 guinea. A fee of 3 guineas admits to the whole practice of the hospital for a similar term (one month 1 guinea), and a perpetual ticket for the practice of the hospital may be obtained on payment of a fee of 10 guineas. A certificate, signed by the staff, may be obtained at the end of three months' hospital attendance. A pathological museum and a pathological laboratory for original research are available. A reading- and a writing-room, containing a reference and lending library, is provided, and tea may be obtained. The hospital is connected with the Telephone Exchange (No. 23, Tottenham).

The lectures are as follows:—In General Medicine: Dr. R. Murray Leslie, Dr. G. P. Chappel, Dr. A. J. Whiting, Dr. A. G. Auld, and Dr. T. R. Whipham. In General Surgery: Mr. H. W. Carson, Mr. J. Howell Evans, and Mr. E. Gillespie. In Gynæcology: Dr. Arthur Giles and Dr. J. Bright Banister. In Diseases of the Eye: Mr. R. Philip Brooks and Mr. E. A. Dorrell. In Diseases of the Ear, Throat, and Nose: Mr. H. D. Gillies. In Diseases of the Skin: Dr. G. Norman Meachen. In Fevers (at the North-Eastern Fever Hospital, St. Anne's-road): Dr. Frederic Thomson. In Psychological Medicine (at the Colney Hatch Asylum): Dr. S. E. Elgee. In Tropical Medicine: Mr. James Cantlie. In Radiography and Medical Electricity: Dr. Metcalfe. In the Administration of Anæsthetics: Dr. Hadfield and Dr. Shannon. In Vaccine Therapy and Bacteriology: Dr. Benians.

Further information may be obtained from the Dean.

Royal Hospital for Diseases of the Chest, City-road, E.C.—This hospital, which has lately undergone extensive reorganisation, provides an excellent field for research and study in diseases of the chest, more especially in tuberculosis, in its various departments. The departments in which study can be pursued comprise the In-patient, Out-patient, Röntgen Ray, Cardiological, Pathological and Bacteriological, Ear, Nose, and Throat, and Dental Departments. An extensive department for the Prevention of Consumption (Tuberculosis Dispensary) has been established. A splendid opportunity thus presents itself for medical practitioners and students who desire to obtain an intimate knowledge of tuberculosis. The Bacteriological and Pathological Research Laboratories, under the new director, Dr. Carnegie Dickson, should provide excellent opportunities for acquiring a knowledge of bacteriological methods, and also a field for research for those who wish to pursue such studies. The Cardiological Department, which has recently been established, has been equipped with all the latest apparatus for the investigation of diseases of the heart. In connexion with the Röntgen Ray Department there are two radiologists, who attend the hospital four days weekly. Attached to the hospital is a Medical School for Instruction in Diseases of the Chest, more especially Tuberculosis, at which courses of instruction are given from time to time. There is also a Tuberculosis School for Nurses, where regular theoretical and thoroughly practical courses of instruction are given, for which a certificate is granted. The fees for attending the clinical practice of the hospital are as follows: One month, 1 guinea; three months, 3 guineas; six months, 5 guineas; perpetual ticket, 6 guineas. Any further information will be gladly given by the Dean, Dr. Barty King.

Central London Ophthalmic Hospital, Judd-street, St. Pancras, W.C.—For the various classes of instruction in Ophthalmology held at this hospital application should be made to the Dean. Classes of instruction will be held during the Winter Session and are open to both men and women students. The course will include: The Use of the Ophthalmoscope, Errors of Refraction and Muscular Anomalies, Medical Ophthalmology, External Diseases of the Eye, Anatomy of the Eye, Operative Surgery, Pathology of the Eye, Bacteriology of the Eye, X Ray Instruction, and Clinical Lectures. The post of Clinical Assistant at the hospital is open to men and women students, and a composition fee of £5 5*s.* entitles students to a perpetual ticket, and £3 3*s.* to three months' hospital practice. Either fee will admit students to the first four classes.

Hospital for Sick Children, Great Ormond-street, W.C., and *Queen's Hospital for Children*, Hackney-road, E.—The special courses of instruction usually held at these hospitals have been abandoned on account of the war.

PROVINCIAL.

Birmingham.—At the University of Birmingham special courses for post-graduates have not yet been instituted, except in the subject of Advanced Bacteriology (January to March) and Clinical Pathology and Bacteriology (April to June) and a course of Veterinary Pathology and Bacteriology for Veterinary Practitioners (October to December), but the various departments of the University are open to graduates who can attend any of the systematic courses on payment of a fee. Graduates may also work in the laboratories under the supervision of the professors for a small fee to cover the incidental expenses. Applications for information should be made to the Dean. All classes at the University and hospitals are open to men and women.

Bristol.—Post-graduate instruction for those desiring to take M.D. degrees, for applicants for tuberculosis officerships, and for other general purposes, is provided in the Faculty of Medicine of the University of Bristol. For details, apply to the Dean of the Faculty of Medicine, University of Bristol.

Cambridge.—Long vacation courses are held at Cambridge during the month of July and the first three weeks in August. This year the course included lectures and demonstrations on general and special pathology by Professor G. Sims Woodhead, Mr. T. S. P. Strangeways, and Dr. W. M. Scott, on bacteriology for medical students by Dr. Louis Cobbett, an advanced course on bacteriology for students of sanitary science by Dr. G. S. Graham Smith, a course in pharmacology by Professor J. B. Bradbury and Dr. W. E. Dixon, courses of lectures in surgery, surgical anatomy, and bandaging, &c., by Professor Howard Marsh and Dr. H. B. Roderick. The pathological and pharmacological laboratories are open to advanced students and graduates. Similar advanced courses in pathology and therapeutics are arranged for in the Lent, Easter, and Michaelmas terms for senior medical students and qualified medical men, and in the Lent term in bacteriology for students of sanitary science. Applications for information should be made early to Mr. E. E. Stubbing, Pathological Laboratory Museum, Downing-street, Cambridge.

Leeds.—The Anatomical, Physiological, and Pathological Laboratories at the University of Leeds are at the disposal of qualified medical men for research or for routine work at specially arranged fees, and though there is no definite post-graduate course at the General Infirmary, the work of this large teaching institution is very freely accessible to qualified medical men at reduced fees. It offers a wide field for clinical study, having special departments for the treatment of diseases of women, for diseases of the eye, ear, nose and throat, skin and nutritional diseases of children. There are also facilities for acquiring a knowledge of the uses of electricity and of radiography in diagnosis and treatment. The General Infirmary offers a perpetual ticket to practitioners for £10 10*s.*, or in two separate payments of £5 10*s.* At the Public Dispensary, North-street, 35,000 medical and

surgical cases are treated annually, partly as out-patients and partly at their homes; the Hospital for Women, Little Woodhouse-street, has 53 beds devoted to gynæcology, obstetrics, and diseases associated with pregnancy and labour; the Leeds Maternity Hospital, 42, Hyde-terrace, has 33 beds; and the Leeds City Fever and Smallpox Hospitals are an important group of hospitals where all the infectious cases of the city are treated. The West Riding Lunatic Asylum, Wakefield, accommodates 2023 patients, and offers unusual advantages to those who desire to make themselves conversant with the treatment and management of the insane.

Liverpool.—At the University of Liverpool the department of Bio-chemistry is devoted chiefly to post-graduate teaching and research work upon chemistry in relationship to biology and medicine. The laboratory possesses a main room designed specially for research students in bio-chemistry. In this room there is ample accommodation for ten workers, each with independent working space. Special advanced courses in bacteriology are given in connexion with both the Medical and Veterinary Schools during the winter and summer terms, and special classes are arranged for candidates for the Diplomas in Public Health, Ophthalmology, and Veterinary Hygiene, and for the degree of Master of Hygiene. This department is in charge of Professor J. M. Beattie. Instruction may be obtained at the Johnston Laboratory and also at the farm station of the Incorporated Institute of Comparative Pathology on the methods of manufacture and testing of the various curative and preventive vaccines and sera used in medical and veterinary practice. In the department of Public Health a course of 41 lectures and demonstrations on the diagnosis, treatment, and administrative control of pulmonary tuberculosis will be given. The course has been specially designed to meet the requirements of those seeking appointments as tuberculosis officers. It has also been adapted to meet the needs of those general practitioners who wish to become familiar with recent advances in medicine with regard to tuberculosis. One of the most important post-graduate departments of the University is the Tropical School. Here there are always a large number of students either carrying on research work under the direction of one of its three professors, or studying for the Diploma of Tropical Medicine of the Liverpool University or of some other examining body. Post-graduate courses are also given in surgical and applied anatomy, operative surgery, ophthalmology, surgical diseases of children, skin and throat diseases, by the several lecturers appointed for those special courses of instruction. All post-graduate classes at the University are open to persons of either sex.

Manchester.—The plan adopted a few years ago at the University of Manchester of having special courses of lectures on medicine and surgery for qualified medical men has since that time been considerably modified. Classes are now held and lectures given on various special subjects, as, e.g., diseases of the heart, diseases of the respiratory organs, of the kidney, the pathology of the skin, neurology, and so on, and the same obtains as to surgical matters. These lectures are designed to meet the wants of senior students and practitioners. During the past summer post-graduate clinical demonstrations have been given twice a week at the infirmary by members of the staff, and it is expected that a series of demonstrations will be arranged for next summer. Classes for senior students and post-graduates are also held at the Ancoats Hospital. There are good opportunities also for post-graduate study at the special hospitals for diseases of the eye, throat, ear, and skin, &c., but no special demonstrations are given. The Public Health Department, under the direction of Professor S. Delépine, is largely attended by medical men, as are also the lectures given in the University and the Hygiene course by Dr. E. J. Sidebotham. Facilities are also given for the pursuit of research work in the public health laboratories, and in this department the dates of post-graduate courses in pathology and bacteriology are announced in the laboratory and in the medical journals. There is no difficulty in Manchester in the way of any practitioner who wants to have his recollections revived or his knowledge enlarged and brought up to the present standard in accomplishing his wish. Facilities for research and post-graduate work are offered to women on the same terms as men.

Newcastle-upon-Tyne.—At the University of Durham courses of instruction are given in chemical and physical laboratory work and lectures are delivered on comparative pathology and practical bacteriology for the Diploma in Public Health and the degree of Bachelor in Hygiene. All courses are open to women students and graduates.

Sheffield.—At the University of Sheffield post-graduate courses are held annually during the winter months. These courses are specially arranged for practitioners, and include lectures on special subjects, laboratory courses, and clinical work, both general and special. A separate laboratory is reserved in the pathology department for post-graduate research workers, the use of which and of all apparatus is free. Periods of hospital practice may be taken out by registered practitioners at a small fee.

SCOTLAND.

Aberdeen.—Although there is no special provision at Aberdeen for post-graduate study such as exists in London, still there are some facilities for doing work of this nature at the University. There are fully equipped laboratories in anatomy, anthropometry, bacteriology, botany, chemistry, pharmacology, physics, physiology, public health, and zoology. Graduates or others desiring to engage in special study or research may be admitted by the Senatus to prosecute such study or research in any of the laboratories in accordance with certain provisions. Research students are exempted from payment of laboratory fees, but are required to matriculate each year, paying the ordinary matriculation fee (£1 1*s.* for winter and summer; 10*s.* 6*d.* for summer). Forms of application for admission as research students may be had from the Secretary of the Senatus. The fees are £3 3*s.* for six hours per week in winter or nine hours per week in summer, 10*s.* 6*d.* and 7*s.* being charged for every extra hour per week in winter and summer respectively. The fee for the Public Health Laboratory for six months is £6 6*s.*, and for the Bacteriological Laboratory for three months is £4 4*s.*, £3 3*s.* and £1 11*s.* 6*d.* being respectively charged for a half course or any less time. At the Royal Lunatic Asylum, accommodating above 700 patients (fees £2 2*s.* for three months), arrangements are made for extra teaching in the higher departments of medical psychology and cerebral pathology for graduates who desire it or wish to obtain the certificate of the Medico-Psychological Association of Great Britain and Ireland. Clinical work may be done at the following places:—(General Hospital): Aberdeen Royal Infirmary (accommodating 200 patients; perpetual ticket £10, or first year £5 10*s.* and second year £5, thereafter free); Sick Children's Hospital (75 patients; first year £2 2*s.*, then £1 1*s.*); City (Fever) Hospital (100 beds; £1 1*s.* for three months); General Dispensary and Lying-in and Vaccine Institution (10,000 out-patients per annum; a fee of £3 3*s.* for the general practice of the Institution, a fee of £1 1*s.* for the certificate of Vaccination, and a fee of £3 3*s.* for the Maternity Practice); and Ophthalmic Institution (16,000 patients per annum; fee £2 2*s.*). During the summer session (April to June) special classes, each costing £2 2*s.*, are held at the Royal Infirmary, the subjects being Diseases of the Skin, Medical Electricity, Dental Surgery, Anæsthetics, Ophthalmology, Gynæcology, and Diseases of Ear, Nose, and Throat. Lectures on Diseases of the Ear and Throat are also given at the Dispensary. All these facilities for post-graduate study are open to medical practitioners generally.

Edinburgh.—Post-graduate teaching now occupies a recognised place in the Edinburgh School, the arrangements connected therewith being entrusted to a committee consisting of representatives appointed by the Faculty of Medicine of the University and the Royal Colleges. Exceptional facilities for post-graduate instruction are afforded during the summer vacation. Five courses are held at this time—viz., a course on Diseases and Defects of Children, with additional Demonstrations, during the second fortnight of July; a special course on Obstetrics and Gynæcology during the same time, a course on Internal Medicine during August, and both a Surgical and General Course during September. (*a*) The course on Diseases and Defects of Children will comprise Medical and Surgical Clinics, and Clinics on Out-patients, also Clinics and Demonstrations on special subjects, the

needs of Medical Inspectors of School Children being specially kept in view. (*b*) The course on Obstetrics and Gynæcology will comprise obstetric and gynæcological clinics, demonstrations, lectures, and operations. A special feature is the practical class on gynæcological pathology, to be held daily during the course. (*c*) The course on Internal Medicine, which will extend for four weeks, will comprise classes upon medical applied anatomy (10 hours), the methods of X ray diagnosis and electrical treatment (10 hours), the clinical examination of the blood (10 hours), clinical bacteriology (15 hours), the examination of the heart (10 hours), the examination of the nervous system (10 hours), the examination of urine and digestive products (10 hours), the physiology and pathology of the nervous system (5 hours), and a class on food and dietetics (5 hours), in addition to a series of 40 specially arranged clinics dealing with diseases of the heart, lungs, blood and ductless glands, nervous system, stomach and kidneys, abdomen, and general diseases. Once a week there will be a clinic on the medical aspects of morbid pregnancy, &c., the place of meeting being the Royal Maternity Hospital. The entries for this course will be limited to 25, and the fee will be 10 guineas. Graduates may, after the beginning of the course, enter for vacant places, if there are any such, during the second fortnight, at a fee of 6 guineas. Entries cannot be received for isolated subjects. (*d*) The Surgical Course will include classes upon surgical anatomy (20 hours), surgical pathology (20 hours), and operative surgery upon the cadaver (30 hours), in addition to specially arranged daily clinics. The entries for the Surgical Course will be limited to 25, and the fee will be 10 guineas. Entrants for the Surgical Course may also attend any of the classes or clinics included under the General Course. (*e*) The General Course, subdivided into two independent fortnights, will also continue for four weeks. Among the subjects included in this course are medical anatomy, the medical and surgical affections of children, the medical inspection of school children, lectures upon infant feeding, demonstrations upon the pathology of the eye, clinics on medicine, surgery, infectious diseases, neurology, venereal diseases, diseases of the eye, demonstrations on morbid anatomy, &c. The fee for the course will be 5 guineas, or 3 guineas for either fortnight. In addition to the subjects above mentioned the following classes, the attendance upon which is necessarily limited, are open to graduates who have entered for the General and Surgical Course upon payment of an additional fee of 1 guinea in each instance: bacteriology, vaccine therapy, diseases of the blood, diseases of the ear, nose, and throat, ophthalmoscopy, errors of refraction, gynæcology, histological methods employed in medical diagnosis, X ray, electrical, and radium work, clinical gynæcology, and obstetric and gynæcological pathology. There are also special courses on the Ear, Nose, and Throat, and on the Surgical Diseases of the Genito-Urinary Tract. The fee is 6 guineas, and will also permit of attendance on all the classes included in the second fortnight of the General Course. Further special lectures have been arranged for. These lectures are open to local practitioners as well as to graduates attending the September courses. Accommodation may be obtained during September at one of the residences of the University Hall. Information regarding other accommodation may be obtained from the Secretary. The committee of the University Union has decided to open the building during September, and gentlemen attending the course are eligible for temporary membership for one month on payment of a fee of 10*s*. The Union, which adjoins the University buildings, contains a good medical library, reading-rooms, dining-hall, smoking-room, billiard-room, &c. Copies of the syllabus of both the August and September courses may be obtained from the Secretary, Faculty Office, University New Buildings, Edinburgh. The course of instruction is open to graduates of either sex.

Glasgow.—Owing to the organising work of the hospital staffs in connexion with the war, all the post-graduate syllabuses have been cancelled.

IRELAND.

Belfast.—At the Queen's University of Belfast a course in Clinical Pathology, consisting chiefly in practical instruction, has been given hitherto during the summer session, and, should a sufficient number desire to attend, a post-graduate course of practical work in the application of methods of chemical physiology to clinical investigation is also held open to practitioners. A course in Clinical Pathology or Bacteriology is given to medical practitioners, and members of this class have an opportunity of seeing the methods employed in the various investigations carried out in this department for the public health committee of the Belfast corporation in connexion with water-supply, sewage disposal, meat- and milk-supply, and the diagnosis of cases of infectious diseases. Subject to the number of students presenting themselves, arrangements are made for the necessary practical instruction (1) in the chemical laboratories; (2) in the pathological and bacteriological laboratories; and (3) for outdoor sanitary work under the medical officer of health of Belfast. These courses have been approved by the Privy Council in connexion with the degree of M.D. in State Medicine in the University of London. The certificates of these courses are also accepted for the Diploma in Public Health granted by the Queen's University of Belfast, the University of Cambridge, and the various licensing bodies.

Post-Graduate Research Fund.—Grants from this fund may be obtained by graduates in medicine of the University of Belfast of not more than three years' standing. Such research grants are available for graduates who desire to prosecute original research or clinical study in some department of medicine. Applicants must give such evidence of capacity for the work which they desire to prosecute as shall appear satisfactory to the Faculty of Medicine. The holders of such grants must furnish reports of their work either during the prosecution of, or at the close of, their studies. Further information regarding these research grants may be obtained from the Secretary of the University, to whom all applications must be forwarded.

The new Public Health Laboratories at Queen's University, which were completed and furnished last session, are now in full working order and are available for post-graduate research.

Cork.—At University College a post-graduate course is held for the Diploma in Public Health, including Chemistry and Bacteriology. No post-graduate courses have up the present been held at the hospitals. All the College and hospital courses are open to men and women students.

Dublin.—Trinity College and the Royal College of Surgeons each make arrangements for a course of post-graduate instruction in the year. Instruction is usually given in the following 11 subjects: Medicine, Surgery, Gynæcology, Diseases of Eye, Diseases of Throat, Nose, and Ear, Diseases of Skin, Pathology, Anatomy, Physiology, X Ray Work, and Cystoscopy. The courses in pathology, anatomy, and physiology are designed with special bearings on clinical problems. The classes are held in the School of Physic, Trinity College, and in Sir Patrick Dun's, the Adelaide, the Royal City of Dublin, the Rotunda, and the Royal Victoria Eye and Ear Hospitals. Arrangements are made by which a limited number of members of the class can reside in College rooms and dine on commons, at an inclusive cost of £1 1*s*. per week. The composite fee for the entire course is £5 5*s*. The autumn course for 1914 began on Sept. 14th and will end on Oct. 3rd. Full particulars can be obtained from the honorary secretary, Dr. Alfred R. Parsons, 27, Lower Fitzwilliam-street, Dublin.

A post-graduate course is also arranged under the auspices of the President and Council of the Royal College of Surgeons in Ireland. The object of this course is to render available the whole of the clinical material in the city for the post-graduate student, so that he may see as much as possible during the brief time at his disposal. With this object in view the ten general hospitals of the city are included (Richmond, Jervis-street, Adelaide, St. Vincent's, Dr. Steevens', Mater Misericordiæ, Meath, Mercer's, Royal City of Dublin, and Sir Patrick Dun's), and also the various hospitals which are devoted to specialties. In addition to the clinical work, instruction is given in Operations on the Cadaver, Anatomy, and Sanitary Science. The course for 1914 began on Monday, Sept. 21st, and will terminate on Oct. 10th following. Fee for course, inclusive of all, £5 5*s*. For Surgery only £3 3*s*., for Medicine only £3 3*s*., for special course £1 1*s*.

Full details regarding the course can be obtained from, and all applications are to be addressed to, the Secretary of the Post-Graduate Course, Royal College of Surgeons in Ireland.

In addition to the special courses detailed above, arrangements can be made at almost any time at the various laboratories and hospitals for individual post-graduate work. In particular the practice of the maternity hospitals, the Rotunda, the Coombe, and the National Lying-in, is made much use of by graduates from all parts of the world. All courses are open to women practitioners on the same terms as to men.

THE CLAIMS OF BRITISH SPAS.

THE movement on foot to bring the merits and claims of our home health resorts into strong prominence at the present time when so many well-known continental watering-places are inaccessible deserves support. Amongst the first to take steps in this direction is the Cheltenham town council, which is issuing a circular to the medical profession in which attention is drawn to the advantages of this charming town as a watering-place providing natural medicinal waters, baths, and all the appliances which go to complete a well-equipped hydrotherapeutic station. For a good many years we have pointed out that there is not a single natural mineral water on the continent which has not its counterpart in this country. We have radio-active thermal springs at Buxton, Bath, and Matlock; we have aperient waters at Cheltenham; we have sulphur waters at Harrogate, Strathpeffer, and Llanwrtyd; saline springs at Woodhall (iodine), Peebles and Leamington; barium and calcium saline waters at Llangammarch; brine baths at Droitwich and Malvern; and chalybeate, sulphur, and saline baths at Llandrindod and other places. These British spas possess between them the natural inducements offered at Homburg, Wiesbaden, Kreuznach, Baden-Baden, Nauheim, Ems, Carlsbad, and Marienbad. Further, they have in recent years supplemented their natural resources by installing facilities for treatment under various physical methods (including electrical, radiant, and massage treatment) which are recognised to be decidedly beneficial in a large number of cases.

This week we deal with Cheltenham; later we propose to describe the opportunities for sound treatment offered by other watering-places in this country which, provided that a strict régime during treatment is insisted upon, will give results in no degree inferior to those obtained abroad.

THE WATERS OF CHELTENHAM.

Cheltenham is a charming old town surrounded by a most beautiful and attractive undulating country. Its Georgian aspect is due to the popularity which it enjoyed as a spa a century and a half ago. At that time, of course, facilities for travelling abroad did not exist, and it may be said generally that the advent of the railway and transport by steam power militated more than anything else against the popularity enjoyed by our own watering-places. The novelty of going abroad for treatment, so long as there was a minimum of inconvenience in travelling, appealed to the public. The convenience of going abroad has for the moment disappeared, and there must be a *clientèle* for the opportunities offered by a home spa which includes, amongst other things, a course of waters.

At Cheltenham there are four waters chiefly in use, and they are known as the Cheltenham magnesia water, the Cheltenham alkaline water, the Cheltenham sodium sulphate and saline water, and the Cheltenham natural aperient water. The cases likely to receive benefit from a regular course of one or other of these waters cover, of course, a wide therapeutic ground which will be appreciated by medical men. The administration decided upon is entirely at the discretion and under the supervision of the physician. At Montpellier the corporation has provided a complete and attractive set of baths and douche and massage apartments with suitable and comfortable dressing-rooms. Brine baths are available, or any bath which may be prescribed by the medical attendant. The equipment includes the modern development of the Aix douche and massage-room. The treatment by baths, douching, and massage is much appreciated by sufferers from gout and rheumatism, while this line of treatment has been successful, under medical direction, in neurasthenic conditions and in those cases where general tone is poor.

The social attractions at Cheltenham have been raised to a standard which is now recognised by most communities where facilities for collective treatment of disease occur. It is well to bear in mind that the success attending the spas abroad has been due largely to the attention that has been given to social amenities. The requirements of patients are very carefully studied in this direction at Cheltenham, for, however valuable treatment by natural waters and a restraint in diet may be, the very discipline of this becomes irksome, and compensation is needed in the various social arrangements which provide healthy and amusing diversion for the mind. In this direction hitherto the policy of the authorities controlling the administration of our home health resorts has been shortsighted. There are, however, signs that in many places a more lively and liberal administration will prevail, and we are glad to learn that Cheltenham is amongst them. A regular attempt is being made to help the patient's cure by providing him with amusement.

Setting out the qualifications of a health resort, first, there must be natural waters of medicinal value, coupled with a general equipment providing physical treatment; secondly, the spa must have natural beauties of situation; and, thirdly, there must be provided a relaxation of medical routine in the shape of amusements of a first-rate order. Our spa authorities are rapidly applying these lessons to practice and will thus secure a patronage commensurate with that enjoyed abroad. Their efforts should be stimulated by opportunity, as at the present moment many of our countrymen are cut off from exercising their conviction that only on the continent can these things be efficiently done. Cheltenham, having the qualifications, is seizing the opportunity.

DONATIONS AND BEQUESTS.—The late Mr. Charles Lawler, of Dublin, has left among other bequests £15,000 for the construction and equipment of a dispensary to be attached to St. Vincent's Hospital, Stephen's-green, Dublin; £1000 each to the Meath Hospital, the Royal Hospital for Incurables, Donnybrook, Dublin, and the Hospital for the Dying, Harold's Cross, Dublin; and £500 each to St. Vincent's Hospital, Dublin, the Deaf and Dumb Institution, Cabra, and St. Mary's Asylum for Female Blind.

THE LANCET.

LONDON: SATURDAY, SEPTEMBER 26, 1914.

The Government Grants for Maternity and Child Welfare.

IN an article on "The State, the Mother, and the Child" in THE LANCET of April 25th last, we drew attention to the strength of the movement for local authorities undertaking systematic provision for the care of the expectant mother, for midwifery, and for the supervision and medical treatment of the child up to the age when school medical inspection and treatment begin. We there indicated that aid to this movement was likely to be forthcoming in the form of substantial Government grants, and that both the Local Government Board and the Board of Education, as concerned with public health and educational local authorities respectively, might be expected to take part in the necessary central organisation for the purpose. The last Budget, which was voted without discussion, includes a sum to be distributed by the Local Government Board in aid of expenditure of local authorities in respect of "clinics, dispensaries, or other institutions primarily concerned with provision for maternity and child welfare," as well as in respect of the salaries of health visitors and other officers engaged for this work. The Board of Education also has now announced that grants will be made to institutions providing "schools for mothers," a term which is allowed to cover a wide field of activity.

In a circular issued on July 30th the Local Government Board drew attention to the prospective grants, bringing to the notice of the local authorities a scheme, prepared by the Board's medical officer, which set out the principal subjects for which it is desired that the local authorities applying for grants should make provision. Dr. A. NEWSHOLME divides the arrangements required under four heads: the supervision of midwives, and the making of arrangements in connexion with the mother and child in ante-natal, natal, and post-natal periods respectively. The ante-natal arrangements should include clinics for expectant mothers, home visiting, and a maternity hospital or beds at a hospital in which complicated cases of pregnancy can be received. The natal arrangements should provide such assistance as is needed to ensure the mother having skilled and prompt attendance during confinement at home, and hospital accommodation for special cases. The post-natal arrangements should include provision for systematic advice and treatment for infants at "baby clinics" or infant dispensaries, and the continuance of these clinics or dispensaries so as to be available for children up to the age when they are entered on a school register—i.e., the register of a public elementary school, nursery school, crèche, day nursery, school for mothers, or other school. It is apparently intended that while public health authorities, under the direction of the Local Government Board, are to extend their activities in child welfare work upwards in the matter of age, no longer restricting themselves to the infant under one year, the education authorities, under the advice of the Board of Education, will continue to expand their medical work downwards, taking in or establishing educational centres at which mothers may be educated in the care and management of infants and young children by means of classes and home visiting. In connexion with these schools the Board of Education contemplate the establishment of "infant consultations," at which specific medical and surgical advice and treatment may be given, though only incidentally and not as the primary object of the consultation.

The local initiation of such measures as these, or the development on these lines of existing municipal or voluntary arrangements, must fall largely on medical officers of health, and we conclude from the official documents that they will be able to exercise a wide latitude of choice in the methods they pursue, and may even select the Government department by which they will be guided, without forfeiting claims to the national grant. The full realisation of some of the measures in the departmental programmes will give rise to some difficult questions, and from their medical aspect it will be important to define the position which the subsidised municipal service will occupy with regard to general practitioners and to those consultants who specialise in gynæcological work and in diseases of childhood. At the moment new proposals, however ambitious, can hardly be expected to make much progress. Local authorities are too much occupied with emergency matters, and are too depleted in staff to undertake them, while the whole of the voluntary charitable administration of the country is at the present moment affected by the war. The shortage of medical men must also militate against the initiation of new policies dependent upon medical coöperation. At the same time the grants give a substantial encouragement to existing organisations. Institutions which already partly fulfil the purpose of schools for mothers can now obtain State assistance, as also can local authorities in respect of their expenditure on health visitors and inspection of midwives. It may at least be hoped that the grants will result in all urban working-class districts having capable health visitors or organised home instruction for mothers. The public value of such work has been fully established by experience. We are sure that since the war broke out many educated women must have been eagerly seeking to undertake work of real

utility among the working classes, but have been deterred by ignorance of the way to do it without suspicion of charity or patronage. Many such women could find the outlet they need by adopting health visiting as a serious profession. It is necessary for those who would work for the welfare of the mothers and children of the country systematically to be properly trained for the purpose. However the plans of Government departments and local authorities develop, good service in this direction is sure to be in demand and its value to increase in the public estimation.

Dysentery.

IN the Lettsomian Lectures for 1914, delivered before the Medical Society of London, the publication of which we conclude to-day, Dr. F. M. SANDWITH has called attention to a disease which has not only a world-wide interest but at the present time a special significance, since it is a malady which is an inseparable attendant of war in all climates and at all seasons of the year. In his first lecture Dr. SANDWITH gave an interesting historical sketch of the disease, and pointed out that since the Peloponnesian war there has hardly been a protracted campaign in which dysentery has not scourged the hostile armies. He instanced the American Civil War, in which the Federal troops lost 37,794 men from dysentery and diarrhœa; and the Franco-German war (1870–71), in which there were 38,652 admissions and 2380 deaths from dysentery in the German army. In the Japanese war with the Chinese in 1894 amongst the former there were 155,140 cases of dysentery, of which 38,094 died. Knowledge of the causes of disease is constantly advancing, and it is instructive to compare these figures with those of the Russo-Japanese war in 1904. Here also instead of a proportion of four deaths from disease to one death from wounds, which LONGMORE has stated to be the average of the wars of the last 200 years, the Japanese reversed those figures, having a mortality of one dead from disease to four dead from wounds. This result is instructive. The British officers, who accompanied the Japanese troops, reported that sickness was kept down by reliance upon every soldier carrying out the regulations taught to him in peace time rather than upon any expert sanitary corps. Every Japanese soldier is taught that the most disgraceful illness to which he can succumb is one induced by disobedience to orders, such as drinking dirty water or eating unwholesome food. Experience has unfortunately shown, however, that on a long and hot march, or during a long drawn-out battle, it is practically impossible to prevent men from drinking foul water. During the present campaign every possible precaution has been taken by instruction and by all possible scientific means to protect our troops from the occurrence of such carelessness, with all its terrible risks.

It is, of course, necessary to distinguish between the two varieties of dysentery—the amœbic and bacillary—for only in this way can prognosis be given and treatment systematically planned. Dr. SANDWITH gave an excellent account of the entamœbæ of the human intestine, describing the developmental cycles of the organisms and the distinguishing characteristics of the entamœba coli and entamœba dysenteriæ, the latter being the causal organism of amœbic dysentery in man; it is also known as the entamœba histolytica. This form of the disease is of wide geographical distribution, but is especially prevalent in the tropics. At one time Egypt was considered to be its home, and some even recent observers maintained that it was not common in India. Dr. SANDWITH stated, however, that as regards Egypt dysentery is now decidedly less common, whilst sceptics who maintained that amœbic dysentery was unknown in India and some other warm climates have been converted, and the broad fact is well established that most of the dysentery of the tropics is amœbic, while much of the dysentery of temperate climates is bacillary. It must not be forgotten, however, that bacilli are not always absent from amœbic cases. The treatment of amœbic dysentery in the Lettsomian Lectures will be seen to revolve largely round the employment of ipecacuanha and its alkaloids, although the general features suggested by environment have not been lost sight of. The employment of hydrochloride of emetine in sterile water has been attended with considerable success, and Dr. SANDWITH urged that bismuth subnitrate should also be given in large doses. Bacillary dysentery is met with in all parts of the world, particularly in times of war and famine and in crowded institutions, such as lunatic asylums and prisons. After discussing the bacteriology and pathological anatomy of the disease Dr. SANDWITH drew attention to the extraordinary and unexplained prevalence of bacillary dysentery among lunatics. He remarked that it seemed to be generally accepted by bacteriologists that asylum dysentery is always of the bacillary type, and emphasised the importance of seeking for possible carriers. Lunatics, he remarked, are more difficult to deal with than sane patients, for they may never complain of diarrhœa nor any other intestinal symptoms, and yet when they die they are found to have had, perhaps for years, chronic disease of the colon. Thus it is possible by careful searching, as in cholera and in enteric fever, to detect a carrier who has never been suspected of dysentery, but who has nevertheless been responsible for a localised ward epidemic.

As an epidemic may unfortunately occur amongst the combatants in the present war, counsel upon the treatment of bacillary dysentery will naturally attract much attention. The prophylactic measures must not be directed only to the prevention of the contamination of drinking water, for the use of raw vegetables may carry infection, and there is reason to believe that flies may act as carriers of bacilli from fæces to food. In regard to

drugs, Dr. SANDWITH suggested calomel in small doses on the first day, to be followed by doses of bismuth, not more than 15 grains, and he still has confidence in large enemata of nitrate of silver or sulphate of copper. He also considered cyllin by the mouth to be a useful disinfectant. The treatment by serum therapy has been carefully investigated during recent years—SHIGA produced antidysenteric serum in the horse by inoculating cultures of the dysentery bacillus. This serum was used successfully in the treatment of the endemic dysentery in Japan. Dr. SANDWITH quoted the experiences of Dr. J. G. WILLMORE and Dr. A. H. SAVAGE who obtained encouraging results by the employment of serums, but further trials will be required before definite opinions can be formed. Most observers have laid stress on the value of large doses of ipecacuanha in the treatment of tropical dysentery, and Dr. ANDREW DAVIDSON considers that it has proved so successful that it should not on light grounds be set aside in favour of any other. Dr. SANDWITH concluded by saying that in any case of dysentery of doubtful origin the combined treatment of the patient by emetine and by polyvalent anti-dysenteric serum is both rational and humane.

Dr. SANDWITH'S lectures have given an interesting résumé of existing knowledge on dysentery combined with useful information derived from personal experience. A large field still lies open for investigation both on clinical and pathological (including, of course, bacteriological) lines. Recent experiences tend to show that considerable advance has been made, especially as regards treatment, and it is sincerely to be hoped that during the present campaign the losses caused by the disease may prove far less than in previous wars.

Annotations.

"Ne quid nimis."

FORTITUDE.

IT is useless to attempt to minimise the seriousness of the disaster that befell the British Fleet in the North Sea on Tuesday morning last. The destruction of three cruisers which, though valuable in a fighting line, were not of the newest pattern does not affect our position of preponderating strength at sea one whit, but the loss of a large proportion of their splendid crews, both officers and men, is a veritable tragedy. But even here we must not lose our sense of proportion while mourning the solemn and splendid fate of those who have died to maintain the honour of their country. The national self-control during the past two months of poignant anxiety has been remarkable, and as far as can be judged the frank admission by the Admiralty of a naval reverse has not shaken the popular nerve. This cannot be because the menace of the occurrence is not realised. It must be because the country as a whole has braced itself to bear ill-fortune with a stiff lip and good-fortune with self-restraint throughout a struggle which must be very prolonged and will leave behind it deep scars. To our psychologists the almost universal attitude must have been somewhat of a surprise. Not a few of them have been prepared to find our populations, rich and poor alike, more softened by prosperity than the event has proved. There may, alas! be many opportunities before the war is over for further display of fortitude, but we are glad to think that the testimony of the medical profession goes to prove that the fortitude will be generally forthcoming.

RECENT BIOLOGICAL INVESTIGATIONS ON THE DIAGNOSIS OF MALIGNANT GROWTHS.

SOME important researches by Dr. G. Mioni in cases of carcinoma and sarcoma have recently been published in the May–June number of *Tumori*.[1] The hæmolytic reaction, carried out by Crile's methods was positive in 62 per cent. of individuals suffering from neoplasms; negative in 32 per cent. While, however, the former consisted for the most part of operable visceral tumours, many in an early stage, the latter were either cutaneous cancers or those in an advanced condition where the diagnosis was clinically evident. These results were, therefore, all the more appreciable in that they furnished an element of diagnosis in cases clinically doubtful. Considering the fact that the reaction was often positive in suppurative conditions, in acute febrile diseases, and cases of surgical tuberculosis which were also investigated in the same manner, it must be admitted that this detracts in some degree from the practical value which might be attributed to the reaction. Elsberg's reaction gave 11·2 per cent. of positive results, as many in the cases investigated as in controls. This cannot be looked upon as satisfactory from a practical point of view. Estimation of the antitryptic index gave high values in 91·4 per cent. of the cases. This fact is important since the presence of a high index in a patient in whom the question of an acute infective or suppurative focus could be eliminated would lend support to the diagnosis of malignant disease, especially where the symptoms pointed to such a possibility. This reaction is simple, and extremely easy and practicable. Methods of biological investigation based on immunity reactions furnished uncertain results. The specificity of the antigen is far from being demonstrated, as our knowledge of the etiology of malignant growths is uncertain. It cannot be denied that in the serum of patients suffering from neoplasms there are substances capable of provoking specific reactions (deviation of complement) when in contact with extracts of tumours, substances that are not to be found in the serum of healthy persons or those suffering from other diseases; but at the same time it must be recognised that nearly similar reactions take place also with non-specific antigens, and this largely detracts from their significance. The method of passive anaphylaxis gave the author absolutely negative results when the second injection was endoperitoneal; positive in 33·3 per cent. of the cases when the second injection was subdural; but also the controls showed phenomena of irritation and lowering of temperature in an almost equal percentage. It seems doubtful, therefore, whether the anaphylactic picture can be attributed to a true reaction between antigen and antibody, but it is more probably due to a mechanical or toxic action caused by the solution of antigen coming in contact with the nervous

[1] Archivio bimestrale fondato da G. Fichera. Anno III. Fasc. vi., May–June, 1914. Via Antonio Muse, Rome.

centres. The deviation of the complement was complete in 23·2 per cent. of individuals who had growths, incomplete in 14·7 per cent., negative in 14·1 per cent., and doubtful in 17·6 per cent. In the controls it was negative in 62·5 per cent., incomplete in 28·3 per cent., and doubtful in 16·6 per cent. The reaction was inconstant according to the antigen employed; it might confirm other reactions, but taken alone the results were unsatisfactory. The meiostagmic reaction was considered positive when the difference was 1 to 5;' thus, with non-specific antigen it was positive in 57·1 per cent. of the cases. Considering, however, the difficulty of producing active antigens and the ease with which these lose their efficacy, it will be difficult for such investigations to take a prominent position in clinical practice. After the total extirpation of the neoplasms a progressive diminution ending in complete disappearance of isohæmolysins contained in the serum of the patients was observed and at the same time a diminution of the antitryptic index until it reached normal values. This fact demonstrates that the isohæmolysins as well as the antitryptic ferments are in direct relation to the presence of the neoplastic mass and are the indication of the altered metabolism of the organism when a prey to malignant disease.

AN UNATTACHED MASS FOUND IN THE ABDOMINAL CAVITY OF A MALE.

IN the *American Journal of the Medical Sciences* for September there appears a description of a case which its reporters, Dr. R. P. Campbell and Dr. J. J. Ower of Montreal, claim to be unique. The patient, a man of 69, had for 40 years complained of variable dyspeptic symptoms. For 25 years he had been aware of a freely moveable mass in the right side of the abdomen, at first not so large as a hen's egg, but increasing slightly with the passage of time. This had been regarded as a moveable kidney, but the symptoms failed to give full support to this diagnosis. He was admitted to hospital for cystitis consequent on prostatic enlargement with retention. In the course of the routine examination a hard mass of the size of a large orange was found in the right hypochondrium. It was remarkably mobile, but could not be pressed down into the pelvis. The diagnosis made was that of an omental tumour. At the man's own earnest request laparotomy was performed and the mass was removed. The patient died 48 days later, apparently as the result of broncho-pneumonia and renal insufficiency due to an ascending destructive infection secondary to the cystitis. Neither at the operation nor at the necropsy was any trace of a pedicle found, so that the tumour must have been floating freely within the abdominal cavity. Two spherical calcareous masses were discovered post mortem, the one beneath the subdiaphragmatic peritoneum on the left side and the other beneath the peritoneal investment of the ileum. An examination of the tumour itself showed that it was roughly spherical in shape, measuring something over 3 inches in diameter. Its surface was smooth, white, and glistening, its consistence firm, and its centre calcareous. The substance surrounding the latter showed distinct evidences of a laminated composition. Microscopical examination showed that this outer substance was homogeneous; it gave the staining reactions that are appropriate to collagen, but the possibility of its being fibrinous could not be definitely excluded. After a consideration of various hypotheses the writers incline to the view that what was originally a small fibroma of the peritoneum became detached and calcified, growing eccentrically by the deposition of layers of fibrin by the irritated peritoneum. Whatever its origin, the tumour affords an admirable illustration of the surprises that may be revealed at an exploratory laparotomy.

THE NOTIFICATION AND ISOLATION OF MEASLES.

IN a report on the nursing of sick children in Dublin issued by the public health committee of the city the committee express the opinion that if there were any advantage to be gained by the notification of measles it would have been adopted by at least the majority of the urban sanitary authorities, and they therefore do not recommend its adoption in Dublin. The argument is an obvious *non sequitur*. An interesting report bearing on this point is quoted by the United States Public Health Reports.[1] A farmer and stockman from a little village described as A went to Kansas City with his stock. Nine days later he had a bad cold and spent two days wandering from store to store gossiping in A. The occurrence of an eruption on the third day caused him to be interned in his own house. But two weeks later 28 of his gossips found they had measles. In another two weeks 28 further cases occurred, and still two weeks later 30 more, making 86 cases in all. As this constituted almost the entire population of the village the epidemic there subsided. But in the meantime, one of the first group in A visited his medical man in another place, the town B, and the medical man's child contracted measles unsuspectingly, and the rash was noted in school. From this case developed 90 other cases in 43 families in B. A visitor from another town C came home from A, carrying infection to C, where 100 cases occurred. The county examinations were held in C, and a pupil from D attending them took the disease back there, with a result of 30 cases in D. Over 300 cases were indisputably traced to a single case and disseminated largely through schools. Notification, with effective isolation and quarantine at home, or failing that the isolation hospital, would certainly do much to prevent such wanton risk to life and future health as we have revealed here.

DRUG EFFECTS, SINGLE AND COMBINED.

THERE has been a tendency in the latter years for physicians to simplify their prescriptions. There are nowadays fewer of those shot-gun prescriptions whose spread of pellets compensates for a less careful accuracy of aim on the part of the man behind it. When such types of prescriptions persist they are mainly to be found in our hospital cough nostrums and also, perhaps, in the bromide mixtures for epilepsy, and we must suppose that experience has justified their preservation. It is to be noted, however, that even here the drugs used represent a combination all acting ostensibly in a similar physiological manner. There are many causes, we believe, for this tendency to simplification —the advent of organotherapy, the wide market of synthetic preparations, a dimmed faith in many older medicines, and the individual doctor's wider range of activities beyond his dispensary shelves. The

[1] United States Public Health Reports, August 14th, 1914, p. 2126, quoting Bulletin of the Kansas State Board of Health, July, 1914.

National Insurance Act, too, discourages complicated prescribing. But of greater practical and scientific importance than such causes, some of which flavour of commercialism, is the fact that careful experimental observation shows that in some instances one drug given in conjunction with a second may neutralise or even militate against its fellow's action. To give, for instance, a gland extract with an organic or inorganic drug is not the way necessarily to ensure that each will exert its full effect. An example of this has been strikingly demonstrated in some experiments by Gledini and Ollino, published in the *Comptes Rendus de la Société de Biologie* (1914, vol. lxxvi., p. 659). The effect of cascara sagrada and also of sodium citrate was noted upon the intestine of the rabbit perfused with Ringer's solution. With both of these drugs the tonicity of the strip was increased, and the size of the contractions, as registered on an enterogram, was increased three- and four-fold. With adrenalin the amplitude was also increased double, and this effect lasted much longer; similarly pituitrin with even stronger effect, the contractions being quadrupled and the effect being much prolonged. When, however, to an intestine under this adrenalin or pituitrin influence was added either cascara or sodium citrate, the range of the movements was distinctly lessened. Thus, in so far as these observations go, they suggest that reinforcement of effect does not necessarily follow the prescribing of drugs exerting a supposed similar action. Few experiments of this kind have been hitherto recorded, but their value is considerable and may lead to a timely reconsideration of many prescribing methods in vogue at the present time.

CROSSED PARALYSIS AFTER THE INJECTION OF ALCOHOL INTO THE GASSERIAN GANGLION.

THE treatment of severe facial neuralgia by the injection of alcohol into the Gasserian ganglion was described by Schlösser in 1903, and in 1907 he recorded a number of cases in which it had proved successful. Since that time the method has been employed by a large number of surgeons who have in general been satisfied with its results. The operation presents few dangers; hæmorrhage due to wounding of the inferior orbital artery has been twice recorded, transient miosis and paralysis of the abducens muscle have been noted, and Kiliani has seen a mild case of facial paralysis and a complete paralysis of the third nerve result from the injection. G. C. Bolten[1] records the case of a neurotic woman aged 58 who suffered from severe neuralgia in the area supplied by all three branches of the fifth nerve on the right side. Many forms of treatment had been tried, including the injection of alcohol into the branches of the fifth nerve, without giving any permanent relief. Accordingly alcohol was injected into the Gasserian ganglion, apparently with success, for the patient suddenly had a severe attack of the customary pain, which quickly passed off. She went to bed complaining of severe occipital headache, and was given an injection of a third of a grain of morphia. She went to sleep, but did not wake, and was found to be deeply unconscious, with small and equal pupils that did not react to light. She remained unconscious for 48 hours, with a temperature of about 104° F., and then slowly recovered herself. She then showed a complete flaccid paralysis of the left arm and leg, a slight transient paralysis of the right side of the face, and a nearly complete paralysis of the muscles of the right eye, which looked widely outwards and could be moved only a little outwards, while the pupil was widely dilated and did not react to light. Hearing, speech, and swallowing were all unimpaired. The patient complained of headache, which slowly went away in the course of a week, and during this time the temperature returned to the normal. The left limbs were paralysed without loss of sensation; the left foot showed a Babinski reflex. The patient remained four months in hospital, and had practically recovered when she left; the ocular muscles had almost entirely regained their functions, the levator palpebræ superioris being the slowest to do so. The left hand also was slow to recover. The neuralgia did not return. Bolten concludes that the alcohol injection in this case was made partly into Meckel's cavern, in which the Gasserian ganglion lies, and partly through the dura mater covering it into the cranial cavity itself. Here the alcohol spread mainly backwards, coming into contact with the right cerebral peduncle, the motor nerves of the right eye, and to a less extent the right facial nerve. The exact nature of the nervous lesion produced by this contact with alcohol Bolten leaves uncertain.

[1] Nederlandsch Tijdschrift voor Geneeskunde, Amsterdam, 1914, 2361.

THE Bolingbroke lecture for 1915 will be delivered before the South-West London Medical Society on June 9th by Sir William Arbuthnot Lane.

Mr. G. H. Makins, C.B., surgeon to St. Thomas's Hospital, left last week for France to join the staff of the Principal Medical Officer of the Expeditionary Force as consulting surgeon.

THE King has appointed Major William Henry Gerard Herbert Best, R.A.M.C., Special Reserve (P.M.O., Southern Provinces of Nigeria), an official member of the Legislative Council of the Colony of Nigeria.

THE STERILISATION OF POTABLE WATERS BY MEANS OF CALCIUM HYPOCHLORITE.

BY JOHN C. THRESH, M.D. VICT., D.SC. LOND.,
MEDICAL OFFICER OF HEALTH, ESSEX COUNTY COUNCIL.

Professor G. Sims Woodhead's paper on this subject, published in THE LANCET of Sept. 19th, 1914, is an interesting attempt to utilise the well-known bactericidal properties of chlorine for sterilising water for the use of troops. I am afraid, however, that it is too troublesome for use in the field, and there is a risk that the slight excess of chlorine would render the water so unpalatable as to make it objectionable. Moreover, safety does not lie in using a minimum amount of chlorine. The amount of chlorine required to sterilise a filtered water varies exceedingly, not only with waters from different sources, but with water from the same source at different times. Having had to sterilise some millions of gallons daily for nearly two years I have found it necessary to make daily examinations of the raw water to determine the amount of chlorine to be added, and I am convinced that the only safe course in sterilising water for troops is to add an excessive amount of chlorine and at the end of 15 minutes remove the excess. In no case should less than 1 part of chlorine be added to 1,000,000

parts of water, and if the water is known to be foul, as when derived from a polluted river, 2, 3, or more parts should be added.

To the various military officers who have recently consulted me on the subject I have made the following recommendations.

1. Obtain a supply of high quality chlorinated lime in ½ lb. hermetically sealed tins.[1]

2. A corresponding number of half-pound packets of sodium thiosulphate. This salt (usually called hyposulphate of soda and largely used in photography) is nearly tasteless and combines with all the available chlorine in about half its weight of chlorinated lime. From these the following stock can be quickly prepared.

3. Add the contents of a tin of No. 1 to one gallon of water and shake until uniformly mixed.

4. Add one packet of thiosulphate to one gallon of water and shake until dissolved.

A gallon of solution No. 3 will sterilise 8000 gallons of any ordinary clear well or river water in 15 minutes, and if at the expiration of that time the one gallon of thiosulphate solution No. 4 be added to the water any excess of chlorine will be eliminated.

In encampments the water would require to be sterilised in the water-carts, and these apparently vary in size from 100 to 150 gallons. As one gallon of the chlorine solution is sufficient under ordinary circumstances for purifying 8000 gallons, one fluid ounce would suffice for 50 gallons. This being remembered, the quantity to be added to the contents of a water-cart could be calculated instantly by any man in charge who knew the capacity of the tank. The procedure would be as follows: Fill the tank with the water, filtered if necessary and possible, and add 1 oz. of the chlorine solution for every 50 gallons; mix well and allow to stand for 15 minutes, then add a corresponding quantity of the soda solution and again mix. The water is then ready for use. With a very foul or turbid water I should prefer to use a reagent for ascertaining whether there was an excess of chlorine present or not, and for this purpose the soloids of Messrs. Burroughs Wellcome and Co. are indispensable. I have just tried some of these which have been in my possession for years and find them as delicate as when first prepared. They would be used in the following manner:—

After adding the chlorine solution and mixing with the water, pour a little into a cup at the bottom of which is one of the soloids.[2] If there is an excess of chlorine present the water will become instantly distinctly blue. Repeat the test later, and if the chlorine has disappeared add a second dose of the chlorine solution and so on until free chlorine can be detected in the water at the end of 15 minutes. At the expiration of this period add to each 50 gallons of the water 1 oz. of the soda solution, and after mixing the water will be ready for use.

It will be observed that my suggestion differs from that of my friend Professor Woodhead, inasmuch as he uses the minimum amount of chlorine and takes no steps to remove any possible excess, whilst I strongly advocate the use of an excess of chlorine and the removal of this excess after it has exerted its purifying action. My process is the safer and almost certainly more simple for carrying out in the field.

Possibly the word "sterilisation" should not be used in connexion with chlorine treatment, as many bacteria, especially in dirty waters, are not destroyed, but the process can be depended upon to remove any typhoid or cholera organisms which may be present in a water, and the same applies to the species of bacilli which are the probable cause of dysentery.

[1] These can be obtained from the United Alkali Company, Liverpool.

[2] One soloid will do for half a dozen tests, the water in the cup being poured off and the soloid left at the bottom.

THE NORTH MANCHURIAN PLAGUE PREVENTION SERVICE.

THERE are indications of late that the sanitary awakening of the great Chinese Empire is beginning, and that the modern methods of preventing disease adopted by Western nations are likely before long to come into use in this backward country with its teeming population of 400 millions or more. This awakening of China's sanitary conscience has not been accomplished without an appalling sacrifice of human life; but it was the disastrous epidemic of pneumonic plague which raged in Northern Manchuria in the winter of 1910–11 that finally induced the Chinese authorities to seek the counsel and assistance of the great Powers in the prevention of that disease, and incidentally of others. An international conference was held at Mukden in April, 1911, and the delegates there assembled unanimously advised the institution of a North Manchurian Plague Prevention Service. They also recommended that systematic investigations should be made in order to discover whether epizootic plague occurs among the tarbagans and other rodents, and if so, what is the precise nature of the infection. Efforts were also to be made to effect a general improvement in the sanitary condition of the towns and villages of Manchuria, and with this object the public were to be educated by public lectures and the issue of pamphlets and handbills explaining in simple language how certain diseases might be prevented and health maintained. Isolation hospitals of a permanent kind were to be erected for plague cases at various centres and accommodation for contacts provided. It was intended that the formation of the North Manchurian Plague Prevention Service should be carried out with the primary object of having a medical organisation equipped and ready to act for the control of any situation that might arise through the reappearance of epidemic plague, and it is important to note that the medical staff of this new service was to be available when possible for the advising of the poor and destitute on other medical matters. Also the permanent plague hospitals, when not required for actual plague cases, were to be used for the accommodation and treatment of other infectious diseases, as well as of ordinary medical and surgical cases. It was hoped that the service thus established would develop ultimately into a public health service for the whole of China. The first series of reports of the North Manchurian Plague Prevention Service has just been published,[1] edited by Dr. Wu Lien Teh (G. L. Tuck), the director and chief medical officer, containing no fewer than 23 separate contributions. Dr. Wu in a memorandum outlines the work which has been done by his staff and the objects held in view since it was established.

Objects of the North Manchurian Medical Service.

It appears that although the establishment of this service was approved in 1911 by the Central Government of China and by the Viceroy of Manchuria, and although the staff was then organised, its work for a time was delayed by the revolution that broke out in China, so that it was not until September, 1912, that its operations were really begun on a firm basis. Dr. Tuck sets out the objects aimed at by his service; these were mainly to devise means for preventing the recurrence of plague in North Manchuria and to deal with it effectually should it appear; to make researches into the origin and cause of pneumonic plague and its relation to marmots and other animals; to introduce general sanitary measures into the province, and whenever possible to treat and study local diseases. The staff, we learn, at present comprises eight medical men, two of whom are graduates of Cambridge and one of Edinburgh

[1] North Manchurian Plague Prevention Service Reports from 1911 to 1913. Edited by Wu Lien Teh (G. L. Tuck), M.A., M.D., B.C. Cantab. Cambridge University Press. 1914. Pp. 186, with many illustrations.

University, the others being graduates either of the Peiyang Medical College or of the Union Medical College, Peking. The only European member of the staff, Dr. F. E. Reynolds, acts as bacteriologist to the department. One of the most important objects of the service is to utilise every means at its disposal for giving an efficient training in preventive medicine to medical men, who it is expected will carry their knowledge thus acquired to other parts of the country. The members of the medical staff from the beginning have thoroughly understood that their duties were partly educational, and that they were expected to spread as widely as they could the modern doctrines of public health and the prevention of disease among the masses. Already public lectures have been given by them with lantern slide illustrations, and pamphlets have been issued in simple language. Attempts are being made to gain the confidence of the people, so that accurate statistics of births and deaths and other information may be recorded. Already by these efforts a marked change has taken place in the attitude of the native population as regards public health and the prevention of disease. The annual sum voted for carrying on the service is 78,000 roubles—that is, a little over £8000 in English money. The headquarters are at Harbin, where a large hospital has been built in which 50 plague cases can be isolated as well as 250 contacts. Since its opening in December, 1912, this hospital has not been needed for plague, and no fewer than 10,169 patients suffering from diseases of a general character have been treated in it. This hospital is equipped with a large Thresh's disinfector, and has a bacteriological laboratory for research work, a museum, reference library, and an operating theatre. Other hospitals have been built, or are being erected, at Lahasusu, Taheiho, and Sansing. Dr. Tuck expresses the hope that eventually the medical officers will obtain a voice in the direction of local sanitary affairs, the control of which in Manchuria is at present entirely in the hands of laymen. We give below brief references to two of the principal reports included in the series now published.

Investigations into the Relationship of the Tarbagan to Human Plague.

This subject is one of some considerable importance to Manchuria, as the late virulent plague epidemic was alleged to have had its origin in tarbagan plague communicated to the hunters and trappers on the western borders of the province. As so little was known of this animal, and as the grounds on which the blame for originating the late outbreak in Manchuria were found upon examination to be very slight, Dr. Tuck thought it desirable to investigate personally the habits and conditions of life of this animal in the region where it abounds and which is situated in the region where the borders of Mongolia, Manchuria, and the Russian province of Transbaikalia meet. During part of the inquiry he was accompanied by some Russian experts under Professor Zabolotny, a well-known authority on plague. It appears that although the tarbagan occasionally suffers from plague the epizootic seems never to be extensive, so that it is natural to assume that this animal does not play so important a part as the rat in the spread of the disease. Dr. Tuck regards its direct relationship with human plague as almost a negligible quantity. He draws attention to the occurrence, especially in recent years, of outbreaks of plague, frequently of the pneumonic form, in various parts of Siberia, which are now regarded as endemic centres of the infection. It is thought very probable that the great Manchurian epidemic of 1910–11 had its source in infection brought from one of these areas, and not from the tarbagan, as was formerly believed. No case of plague in man or animal has actually occurred in Manchuria since the end of the recent outbreak—that is, since April, 1911. Much information of an interesting kind is given as to the habits of the tarbagan and the methods employed to kill it for the sake of its fur. Dr. Tuck gives some sensible advice as to regulating the trade in tarbagan skins, for which there is a great demand in Europe, so that the local commerce may not be ruined, while all danger caused by hunting or trapping the animal will be avoided.

The Histology of the Lesions met with in Pneumonic Plague.

Some material taken from fatal cases of pneumonic plague in 1911 were forwarded with due precautions from Manchuria to Cambridge University for examination, the results of which are embodied in a joint report by Dr. Tuck and Professor Sims Woodhead entitled "Notes on the Histology of some of the Lesions found in Pneumonic Plague." The material included portions of the heart muscle, lung, bronchial glands, liver, spleen, and kidney. After describing the lesions, it is stated that the histology of the specimens afforded evidence of the presence of an extremely acute septicæmic condition. The authors then go on to observe that their investigations point to the suggestion that in the Manchurian outbreak the amount of the infective material gaining access to the upper respiratory passages was of importance in determining the character of the septicæmia. They are satisfied that this was an instance of a septicæmia or bacteræmia resulting from a pulmonary infection. In warm countries the people live in the open, and the facilities and channels by which plague infection is communicated appear to be those provided by rats and fleas; the plague material is carried more or less directly from one patient to another or from the rat by the flea. In the human subject the local reaction of the tissues and the bubo may prevent the extension of the bacteria, especially if the dose be small and the septicæmic condition occurs at a comparatively late stage, whilst if there is good reaction of resisting tissues the disease may never become septicæmic. If, however, the septicæmia once develops it is evident that the internal organs will be affected in much the same way as they are in pneumonic plague. In Manchuria, where plague was at its height in the depth of winter, the facilities for the inhalation or ingestion of large numbers of plague bacilli were far greater than they could ever possibly be in warm countries where people live more or less in the open. The Manchurian patients lived in overcrowded and badly ventilated houses, with doors and windows tightly closed because of the intense cold, and, moreover, artificially heated—conditions which made the houses into highly infected incubators of the most approved kind.[2] The intensely fatal character of the Manchurian outbreak was due to the massive doses of the infection received by the patients.

INSANITY IN IRELAND.

THE sixty-third annual report of the Inspectors of Lunatics in Ireland, recently issued, shows that there was an increase in 1913 of the number of insane from 24,839 to 25,009. These figures do not include insane wandering at large or residing in private dwellings, with a few specified exceptions. The increase in number, 170, is less by 100 than the average annual increase for the preceding ten years. It is unsatisfactory to note that the number of insane in workhouses has not decreased during the year, although 641 patients were transferred from workhouses to district asylums. The inspectors have undertaken an elaborate analysis of the age-distribution of the insane during the past 50 years, and they conclude that mental abnormality is becoming less among the young, while the number of mentally afflicted among the aged has more than doubled in the period under review. These facts support the suggestion of the influence of the former larger population, and, it may be, of a legacy of mental weakness dating from the sufferings of the famine years. A hope is held out that, as time goes on and these influences exhaust themselves, there may be seen, if not a diminution in the numbers of the insane, an arrest, or at least a greatly lessened velocity, of increase. The proportion of insane under care to the total population has increased from 250 per 100,000 in 1880, to 571 per 100,000 in 1913. The percentage of recoveries to admissions in 1913 was 39·2, being 1·1 lower than in the previous year. The general death-rate on the daily average number resident was 7·2 per cent. Deaths from phthisis were frequent; only 70 deaths occurred from general paralysis of the insane, of which 45 were in the Dublin and Belfast asylums. Two patients were killed by fellow-patients. Careful reports are appended dealing with the various asylums throughout the country. On the whole, those responsible show a praiseworthy endeavour toward continuous improvement. There are, however, noteworthy exceptions, and in some cases stronger pressure is required than the inspectors seem to have brought to bear.

[2] THE LANCET, August 23rd, 1913, p. 529.

THE SERVICES.

ROYAL NAVY MEDICAL SERVICE.

IN accordance with the provisions of Order in Council of April 1st, 1881, Fleet-Surgeon Charles Strickland has been placed on the Retired List (dated Sept. 14th, 1914).

The following appointments have been notified:—Fleet-Surgeons (retired): E. B. Pickthorn to the *Victory*, additional, for the *Kent*, and on commissioning; G. R. MacMahon to the *Vivid*, additional, for the *Donegal*, and on commissioning; and C. Strickland to the Royal Marine Infirmary, Portsmouth, temporary. Staff-Surgeons: E. Cox to the *Pembroke*, additional, for disposal; and L. Warren to the *Pomone*, additional, for Dartmouth Sick Quarters. Surgeons: C. D. Bell to the *Victory*, additional, for the *Broke*, and on commissioning; and V. L. Matthews to the Royal Marine Artillery Division, Portsmouth. Temporary Surgeons: H. V. Deakin to the *Attentive*; A. H. Moore to the *Halcyon*; R. F. R. Burn to the *Victory*, additional, for the *Kent*, and on commissioning; H. W. Scott to the *Victory*, additional, for Portsmouth Yard; L. Mandel and R. K. Shaw to the *Vivid*, additional, for the *Donegal*, and on commissioning; W. P. Cowper to the *Vivid*, additional, for Devonport Yard; and G. Hamilton, B. A. Playne, and G. Sparrow, all to the *Victory*, for Royal Naval Division, Walmer.

ROYAL NAVAL VOLUNTEER RESERVE.

Temporary commissions in the Royal Naval Volunteer Reserve have been issued as follows:—Surgeons: William Alexander Sewell and Arthur Henry Crook.

The following appointment has been made:—Surgeon: T. B. Dixon to the *Victory*, additional, for the *Kent*, and on commissioning.

Surgeon Hildred B. Carlill, R.N., has been appointed to H.M.S. *New Zealand*, 1st Battle Cruiser Squadron.

ROYAL ARMY MEDICAL CORPS.

The undermentioned have been granted the temporary rank of Lieutenant:—P. Northcote (dated Sept. 2nd, 1914), A. W. Addinsell (dated Sept. 9th, 1914), W. W. Deane (dated Sept. 10th, 1914), W. B. Bannerman, W. E. M. Armstrong, and L. E. Owen (dated Sept. 11th, 1914), D. J. Thomas and W. Kennedy-Taylor (dated Sept. 12th, 1914), H. R. Knowles, T. L. Ingram, C. E. Reckitt, J. L. Lawry, W. H. Swaffield, J. E. L. Keyes, M. Nicoll, and V. Glendinning (dated Sept. 14th, 1914), and J. J. A. Sherry, E. C. Lindsay, G. E. Neligan, and H. A. Lake (dated Sept. 15th, 1914).

INDIAN MEDICAL SERVICE.

The King has approved the promotion of the following officers of the Indian Medical Service:—Majors to be Lieutenant-Colonels: Brevet Lieutenant-Colonel Thomas Arthur Granger, Harold John Kinahan Bamfield, John Wemyss Grant, Arthur Henry Moorhead, William Davey Hayward, and William Elmsley Scott-Moncrieff (dated July 28th, 1914), Samuel Evans, Arthur Gwyther, John Archibald Hamilton, and James Haldane McDonald (dated July 29th, 1912).

Captains to be Majors: Frederick Ernest Wilson (dated Jan. 26th, 1914), Henry Martyn Brown (dated March 1st, 1914), William Charles Ross, Herbert Hallilay, Alfred John Vernon Betts, Behramji Barjorji Paymaster, Henry Ross, John Forrest, Leonard Hirsch, and Daniel Stanislaus Aloysius O'Keeffe (dated July 26th, 1914), Harold Holkar Broome, Frederick Norman White, Davis Heron, Henry Crewe Keates, Leethem Reynolds, Richard Arthur Needham, and James Kirkwood (dated July 31st, 1914).

The King has approved the transfer of Captain Robert Long Gamlen to the Retired List in consequence of ill-health (dated August 28th, 1914).

SPECIAL RESERVE OF OFFICERS.

Royal Army Medical Corps.

Reserve Units.—The following Cadets and ex-Cadets of the O.T.C. to be Lieutenants (on probation): N. A. Martin, R. G. Bannerman, E. Robinson, and F. G. Lescher.

The following to be Lieutenants (on probation): E. K. Ryan, W. V. Tothill, H. Nield, R. D. D. D. Brownson, C. A. McGuire, H. M. Pope, W. T. Quinlan, H. W. Evans, L. J. Sheil, V. Wiley, C. Armstrong, A. B. Foott, N. L. Joynt, H. S. Pemberton, H. B. Sherlock, and J. Le M. Kneebone.

Supplementary to Regular Units or Corps:—The following Cadets and ex-Cadets of the O.T.C. to be Lieutenants (on probation): J. W. Cannon, C. L. Gaussen, T. F. Corkill, A. McM. Paterson, and T. H. S. Bell.

The following to be Lieutenants (on probation): H. E. Andrews, E. B. Marsh, and J. McCusker.

TERRITORIAL FORCE.

Bedfordshire: Surgeon-Captain Henry Skelding to be Surgeon-Major (dated August 10th, 1914).

Oxfordshire (Queen's Own Oxfordshire Hussars): Surgeon-Lieutenant Archibald H. Hogarth to be Surgeon-Captain (dated August 12th, 1914).

1st Welsh Howitzer Brigade: Surgeon-Major David A. Davies resigns his commission on account of ill-health, and is granted permission to retain his rank and wear the prescribed uniform (dated Sept. 19th, 1914).

Royal Army Medical Corps.

London Mounted Brigade Field Ambulance: Herbert Eldon Roaf to be Lieutenant (dated Sept. 19th, 1914).

1st South Midland Mounted Brigade Field Ambulance: Captain Thomas Henderson Forrest to be Major (dated Sept. 19th, 1914).

3rd Home Counties Field Ambulance: Captain Stanley A. Coad to be Major (dated Sept. 19th, 1914).

1st East Lancashire Field Ambulance: Captain Gordon William Fitzgerald to be Major (dated Sept. 19th, 1914). Lieutenant William Robert Douglas to be Captain (dated Sept. 19th, 1914).

2nd East Lancashire Field Ambulance: The undermentioned Captains to be Majors: George Ashton and Harry Washington Pritchard (dated Sept. 19th, 1914).

3rd East Lancashire Field Ambulance: Captain Edward Harvie Cox to be Major (dated Sept. 19th, 1914). Lieutenant John Knowles Lund to be Captain (dated Sept. 19th, 1914). Oliver Henry Blacklay to be Lieutenant (dated Sept. 1st, 1914).

3rd North Midland Field Ambulance: The undermentioned Captains to be Majors: Andrew Edward Hodder and Charles Algernon Stidston (dated Sept. 19th, 1914).

3rd South Midland Field Ambulance: Captain James S. Mather to be Major (dated Sept. 19th, 1914). Lieutenant George S. Williamson to be Captain (dated Sept. 23rd, 1914).

1st West Riding Field Ambulance: Major Alexander D. Sharp to be Lieutenant-Colonel (dated August 31st, 1914).

3rd West Riding Field Ambulance: Major John W. Stokes to be Lieutenant-Colonel (dated August 31st, 1914). William Barnsley Allen and Robert Alexander Stark to be Lieutenants (dated August 8th, 1914).

1st Welsh Field Ambulance: Major J. Howard-Jones, from Attached to Units other than Medical Units, to be Major (dated August 5th, 1914).

2nd London (City of London) General Hospital: Robert James Probyn-Williams to be Captain (dated Sept. 19th, 1914).

3rd London General Hospital: Dennis Embleton to be Captain (dated Sept. 23rd, 1914).

4th London General Hospital: The date of appointment of Captain Reginald Oliver Sibley is August 5th, 1914, and not as stated in the *London Gazette* of Sept. 1st, 1914). The undermentioned to be Captains: David Henriques de Souza (dated August 26th, 1914), Arthur John Jex-Blake (dated August 27th, 1914), Ivor Gordon Back (dated August 27th, 1914), and Claude Howard Stanley Frankau (dated August 28th, 1914).

1st Northern General Hospital: Major Thomas Gowans to be Lieutenant-Colonel (dated August 6th, 1914).

5th Northern General Hospital: Major Louis K. Harrison to be Lieutenant-Colonel (dated August 6th, 1914).

2nd Southern General Hospital: Archibald Leonard Taylor to be Quartermaster with the honorary rank of Lieutenant (dated Sept. 23rd, 1914). Frederick Cecil Nichols to be Captain (dated Sept. 23rd, 1914).

3rd Southern General Hospital: Captain Robert E. Humphry is seconded (dated Sept. 19th, 1914).

Eastern Mounted Brigade Field Ambulance: Harold Martin McCulloch Coombs to be Lieutenant (dated August 6th, 1914).

1st Northumbrian Field Ambulance: Captain John M. Gover to be Major (dated August 22nd, 1914).

Sanitary Services: Rupert Briercliffe to be Captain, and is appointed Sanitary Officer, East Lancashire Territorial Division (dated Sept. 1st, 1914).

Sanitary Officers: Captain John M. Hamill, from Attached to Units other than Medical Units, to be Sanitary Officer to the 2nd London Territorial Division (dated Sept. 23rd, 1914).

Attached to Units other than Medical Units.—Captain F. G. Proudfoot to be Major (dated August 12th, 1914). Surgeon-Lieutenant William Marley-Cass, from the 5th (Cumberland) Battalion, The Border Regiment, to be Lieutenant (dated August 23rd, 1914). Lewis Campbell Bruce to be Lieutenant (dated Sept. 19th, 1914). Major Robert W. Forrest is seconded (dated August 30th, 1914). Captain William H. Galloway to be Major (dated July 26th, 1914). Captain William G. Sutcliffe is restored to the establishment (dated Sept. 23rd, 1914). Lieutenant John M. Hamill to be Captain (dated Sept. 23rd, 1914). The resignation of Captain George B. Gill is cancelled. Arthur Cecil Hincks to be Lieutenant (dated August 31st, 1914). Edward Bromet to be Lieutenant (dated Sept. 23rd, 1914).

NEOSALVARSAN IN THE FRENCH NAVY.

Dr. Plazy, médecin de 1re classe (Staff Surgeon) in the French navy, has published[1] his experience of neosalvarsan

[1] Archives de Médecine et Pharmacie Navales, March, April, and May, 1914.

gained by treating 80 cases of syphilis in the hospital of Port Louis. He treats his cases, as he says, intensively, giving to each 5½ grm. of neosalvarsan divided into eight intravenous injections, the doses beginning at 0·3 grm. and increasing to 0·9 grm. Each dose is dissolved in some 10 c.c. of recently distilled water, and to avoid oxidation the water is sterilised by boiling, which gets rid of dissolved oxygen, and the solution is further effected as rapidly as possible. Injections of neosalvarsan can be and are given every three or four days, as the elimination of the arsenic is so rapid, occurring mainly in the first eight hours and being completed in 48, while after salvarsan injections it continues for four days. The spirochætæ rapidly disappear from primary and secondary lesions—in only three such could they be demonstrated 24 hours after the injection—and the chancre had generally disappeared after the third dose. The immediate result of the intravenous injection is apt to be some form of the Jarisch-Herxheimer reaction (due to the sudden setting free in the blood of the endotoxins of the destroyed spirochætæ)—that is, the signs and symptoms of the disease intensify themselves for a day or two; the chancre may swell up, the roseola become a little more marked and more diffused, headache and sore throat may increase, there may be increased lymphocytosis and the Wassermann reaction become anew positive. There may be a rise in temperature, and this either (*a*) toxic, from oxidation of part of the neosalvarsan; (*b*) mechanical, from the administration of too large a volume of fluid; or (*c*) specific, a Herxheimer reaction, and this may develop after any one of a series of injections arising only when some secret depôt of spirochætæ is at last penetrated and destroyed. Dr. Plazy has never seen any sign of anaphylaxis in his 700 injections, nor does he believe that neosalvarsan is unable to penetrate to the meninges, as he has found a positive Wassermann reaction of the cerebro-spinal fluid change after intravenous injection. He considers that all nervous troubles reported so far after these injections are due to syphilis, not to the drug. He reports cases of iritis thus cured, and notes that patients with ulcer of the stomach require small doses. Cases have been treated in spite of coexistent albuminuria; in these the arsenic excretion occurred at the usual rate, so there was no ill-effect on the kidneys. Syphilitic nephritis, if present, cleared up, the albumin excretion diminishing while the œdema disappeared. For 15 days after the appearance of the chancre the Wassermann reaction is negative, the disease is not yet generalised, and has got no further than the glands. Intensive treatment swiftly commenced will now achieve the sterilisatio magna (if 5½ grm. are given in all), and the Wassermann reaction will never become positive. Should a primary case when first seen have already a positive Wassermann reaction, that will by intensive treatment be made negative; this result too will probably be permanent; but all these primary cases require to be tested monthly for a year, and if a positive Wassermann reaction develops they require at once another and a complete course of neosalvarsan. If cases appear with doubtful symptoms but a negative Wassermann reaction they require a provocative injection (Milian-Gennerich) of 0·3 grm.; this may elicit a positive Wassermann reaction in from 3 to 15 days, and then the need for a course is clear. In all stages the principle is to get the Wassermann reaction negative, if possible, by a course of 5·25 grm. neosalvarsan. The older the syphilis or the less completely it was originally treated the more numerous the courses that will be required to produce this desired result. It will be observed that Dr. Plazy does not advise any mercurial course as adjuvant, but treats cases entirely with neosalvarsan.

VITAL STATISTICS.

HEALTH OF ENGLISH TOWNS.

In the 97 English and Welsh towns with populations exceeding 50,000 persons at the last Census, 8515 births and 5259 deaths were registered during the week ended Saturday, Sept. 19th. The annual rate of mortality in these towns, which had increased from 12·3 to 15·2 per 1000 in the four preceding weeks, declined to 15·1 per 1000 in the week under notice. During the first 11 weeks of the current quarter the mean annual death-rate in these towns averaged 12·9, against 13·0 per 1000 in the metropolis during the same period. Among the several towns the death-rate last week ranged from 3·1 in Southend-on-Sea, 5·5 in Bournemouth, 6·2 in Leyton, 6·3 in Ilford, 6·7 in Oxford, and 7·0 in Hornsey and in Hastings, to 24·5 in Great Yarmouth and in Sunderland, 25·2 in Middlesbrough, 26·6 in Gateshead, and 27·9 in Stoke-on-Trent.

The 5259 deaths from all causes were 32 fewer than the numbers in the previous week, and included 1437 which were referred to the principal epidemic diseases, against numbers steadily increasing from 394 to 1398 in the ten preceding weeks. Of these 1437 deaths, 1223 resulted from infantile diarrhœal diseases, 64 from measles, 53 from diphtheria, 50 from whooping-cough, 27 from scarlet fever, and 20 from enteric fever, but not one from small-pox. The mean annual death-rate from these diseases was equal to 4·1, or 0·1 per 1000 above the rate in the previous week. The deaths of infants (under 2 years) from diarrhœa and enteritis, which had steadily increased from 112 to 1172 in the ten preceding weeks, further rose to 1223 last week, of which 325 were registered in London, 94 in Liverpool, 57 in Birmingham, 54 in Stoke-on-Trent, 51 in Manchester, 30 in Sunderland, 29 in Sheffield, and 26 in Hull. The deaths referred to measles, which had declined from 111 to 71 in the five preceding weeks, further fell to 64 last week, and included 20 in London, 10 in Oldham, 9 in Liverpool, 5 in Leeds, 4 in Birmingham, and 4 in Sheffield. The fatal cases of diphtheria, which had increased from 31 to 49 in the five preceding weeks, further rose to 53 last week; 13 deaths were recorded in London, 4 each in Birmingham, Leeds, and Hull, and 3 each in West Ham, Liverpool, Sheffield, and Middlesbrough. The deaths attributed to whooping-cough, which had been 52, 69, and 51 in the three preceding weeks, were 50 last week, and included 15 in London, 4 in Liverpool, and 3 in Bradford. The deaths referred to scarlet fever, which had been 20, 25, and 39 in the three preceding weeks, declined to 27 last week, of which 6 were registered in London, 3 in Birmingham, and 2 each in Liverpool, Manchester, Sheffield, Gateshead, and Newcastle-on-Tyne. The fatal cases of enteric fever, which had been 14, 17, and 16 in the three preceding weeks, rose to 20 last week, of which 4 occurred in London, 3 in Liverpool, 3 in Hull, and 2 in Manchester.

The number of scarlet fever patients under treatment in the Metropolitan Asylums Hospitals and the London Fever Hospital, which had increased from 3071 to 3500 in the four preceding weeks, had further risen to 3669 on Saturday last; 551 new cases were admitted during the week, against 536, 548, and 619 in the three preceding weeks. These hospitals also contained on Saturday last 1189 cases of diphtheria, 54 of enteric fever, 30 of whooping-cough, and 10 of measles, but not one of small-pox. The 1348 deaths from all causes in London were 42 fewer than the number in the previous week, and corresponded to an annual death-rate of 15·6 per 1000. The deaths referred to diseases of the respiratory system, which had been 132, 128, and 132 in the three preceding weeks, fell to 110 in the week under notice, and were 22 below the number in the corresponding week of last year.

Of the 5259 deaths from all causes in the 97 towns, 176 resulted from various forms of violence, and 375 were the subject of coroners' inquests, while 1451 occurred in public institutions. The causes of 43, or 0·8 per cent., of the total deaths were not certified either by a registered medical practitioner or by a coroner after inquest. All the causes of death were duly certified in London and in its 14 suburban districts, in Manchester, Leeds, Bristol, Bradford, Hull, Newcastle-on-Tyne, and in 60 other smaller towns. Of the 43 uncertified causes of death, 12 were registered in Birmingham, 7 in Liverpool, 6 in Gateshead, 3 in Bury, and 2 each in West Bromwich, St. Helens, and Sheffield.

HEALTH OF IRISH TOWNS.

In the 27 town districts of Ireland with an aggregate population estimated at 1,205,280 persons at the middle of this year, 556 births and 459 deaths were registered during the week ended Saturday, Sept. 19th. The annual rate of mortality in these towns, which had been 17·6, 18·1, and 17·0 per 1000 in the three preceding weeks, rose to 19·9 per 1000 in the week under notice. During the first 11 weeks of the current quarter the mean annual death-rate in these towns averaged 16·6, against corresponding rates of 12·9 and 14·2 per 1000 in the English and Scotch towns respectively. The annual death-rate last week was equal to 19·4 in Dublin (against 15·6 in London and 16·7 in Glasgow), 19·7 in Belfast, 19·7 in Cork, 14·0 in Londonderry, 17·6 in Limerick, and 13·3 in Waterford, while in the 21 smaller towns the mean death-rate reached 23·4 per 1000.

The 459 deaths from all causes were 65 in excess of the number in the previous week, and included 97 which were referred to the principal epidemic diseases, against 84 and 89 in the two preceding weeks. Of these 97 deaths, 74 resulted from infantile diarrhœal diseases, 9 from measles, 6 from enteric fever, 4 from whooping-cough, 3 from diphtheria, and 1 from scarlet fever, but not one from small-pox. The mean annual death-rate from these diseases was equal to 4·2, against a corresponding rate of 4·1 per 1000 in the 97 English towns. The deaths of infants (under 2 years) from diarrhœa and enteritis, which had been 67, 74, and 71 in the three preceding weeks, rose to 74, and included 30 in Belfast, 25 in Dublin, 6 in Cork, 3 in Londonderry, and 3 in Tralee. The deaths referred to measles, which had declined from 11 to 1 in the four preceding weeks, rose to 9 last week, of which 7 occurred in

Belfast. The fatal cases of enteric fever, which had been 3, 1, and 7 in the three preceding weeks, were 6 last week, and comprised 3 in Dublin, 2 in Ballymena, and 1 in Belfast. The deaths attributed to whooping-cough, which had been 7, 3, and 7 in the three preceding weeks, fell to 4 last week, of which 3 were recorded in Belfast and 1 in Cork. The 3 deaths referred to diphtheria were slightly in excess of the average in the earlier weeks of the quarter, and were registered in Dublin, Belfast, and Kilkenny. The fatal case of scarlet fever occurred in Belfast.

The deaths referred to diseases of the respiratory system, which had been 43, 49, and 35 in the three preceding weeks, rose to 50 in the week under notice. Of the 459 deaths from all causes, 138, or 30 per cent., occurred in public institutions, and 13 resulted from different forms of violence. The causes of 25, or 5·4 per cent., of the total deaths were not certified either by a registered medical practitioner or by a coroner after inquest; in the 97 English towns the proportion of uncertified causes of death last week did not exceed 0·8 per cent.

Home and Foreign Notes.

(FROM OUR OWN CORRESPONDENTS.)

UNITED STATES OF AMERICA.

Some Aspects of Hygiene from the Military Point of View.

THE practical success of military hygiene at Vera Cruz will be of interest to your readers to-day. Americans have a veritable passion for the sanitary question. The perplexities of prophylaxis, discussed in the newspapers and magazines, are so many illustrations of the public interest in these problems. Of course, nothing can compete for a moment in interest with the manœuvres and battles of men in the field. But the military occupation of Vera Cruz has a great importance from the hygienic aspect. The presence of the combination of qualities which produce sanitary experts of the best order is shown by the wonderful health of the rank and file at Vera Cruz. There has been one death from dysentery among them, and the numbers of sick are less than at the different forts and barracks in the States. It would be difficult to suggest any mode of explaining these statistics which would exclude personal and medical factors. As a record of organisation and administration the figures are remarkable. A very common disease, called colitis hæmorrhagica by Mexican physicians, is certainly dysentery, and within the limits of this practical distinction between two races, dysentery, whatever may be its cause, is associated with the unhygienic Mexican *laissez faire*. When active exponents of prophylactic healing, like the army officers, apply the rules of hygiene, disease is diminished in the military and civil population, and the campaign is reduced to a scientific system, carried out with military precision; flies and mosquitoes are banished, streets are swept, drains made, and water and food subjected to bacteriological examination. All these methods have had a great efficacy, but the public hardly realise the difficulties which had to be overcome. A great deal of work has been put into the prophylaxis of malaria, but necessarily the test of its value must come later. So far there have been 40 cases among the soldiers and marines. The symptoms are mainly tertian and quartan, but cases of æstivo-autumnal fever have also occurred. The prevention of malaria has been undertaken with characteristic energy. Hard as the task is, it is fairly likely that the machinery of the new Health Department, created and engineered by officers of the Medical Corps, will succeed in rendering salubrious districts laid waste, as it were, by the mosquito. Twenty-five miles of canals for irrigation have been made, and an elaborate system of drains constructed. Putrid marshes and pools of stagnant water have been covered with earth or oil. In the common phrase, the mosquito is being eliminated.

The Opium Bill.

The Bill in Congress to govern the sale of opium, coca, and their derivatives is not very satisfactory to any party concerned. The debate on the abstract evils of opium and cocaine leaves no one nearer a solution of the problem. The Bill went through, and illustrates aptly a principle of law which at the moment is almost unnoticed. The rights of the minority are supposed to be safeguarded, but if the Bill is brought to the test which some propose, its very moral supporters will be found unworthy of their station. They are interested, of course, in the oppression taking place in the opium traffic of China and other countries, but they have no time to spare for the physicians whom they are busily engaged in oppressing at home. The Bill may be described as a sanction with more than a technical meaning. The essence is in Clause 1. In that clause the physician is obliged to pay a tax to the Government. When the compulsory levy is exacted he is to send in to the Collector of Internal Revenue a written statement provided in the schedule of the Bill that he is engaged in "selling, dispensing, distributing opium or coca leaves or any compound, manufacture, salt." In Clause 2 the schedule runs as follows: Registration: "At the time of such registry and on or before the first day of July, annually thereafter, every person who compounds, deals in, dispenses, sells, distributes, or gives away any of the aforesaid drugs shall pay to the said collector a special tax at the rate of 1 per cent. per annum." One can imagine with what enthusiasm the respectable physician would sign the register and pay such a tax. What an outcry there would be if the Legislature decreed that every man who smoked a cigar must register and pay an annual tax. But all that would happen in this case would be a reversal of the law by the majority; in the matter of opium and cocaine the minority must go on paying for laws they disapproved. The physician is out of court. He alone must find a way out of this grave professional and industrial difficulty. The best thing that could happen to the two committees who are wrangling over the Bill before it goes to the President would be that its titular head, the Internal Revenue Bureau, should abandon it or coalesce with the State Bureaus who are the real affinity. All parties seem to be out for coercion of the physician; he is at once the object of social reformers in State and Federal Government, like a shuttlecock between two battledores. It is a serious political situation, for good laws in social affairs are such rare productions that, notwithstanding the wealth of American law in the moral element, it would not take us long to run over the list of really elevating edicts.

Sept. 7th.

INDIA.

The Calcutta School of Tropical Medicine.

Lieutenant-Colonel Sir Leonard Rogers has addressed a letter to the Indian Tea Association in reply to their inquiry as to the present position of the School of Tropical Medicine, to which I referred in a recent letter. He writes: "I am very glad to inform you that the hitch regarding the staff has now been overcome. The Bengal Government have fully supported all my suggestions, including the

hospital for tropical diseases, for which they have already acquired a site, while I have raised much of the money for building it. The Government of India have been requested to sanction the staff I asked for and I anticipate no great delay in their doing so, as they have recently sent a letter to all local governments in India detailing the courses of study in the school and definitely stating that they will be commenced as soon as possible after the buildings are completed. Only the top storey of the new laboratories remains to be constructed. The delay caused by new plans being necessitated through a portion of the original sites having been required by the Improvement Trust last October and foundation troubles have made the opening of the school next November impossible. It is now expected to open next June after the hot weather vacation." Sir Leonard Rogers concludes by stating that he has no intention of retiring for some years to come.

The Health of Bombay.

Notwithstanding the prevalence of a good deal of minor sickness, such as remittent fevers which the long spell of rain such as we are now experiencing usually brings with it, the health of the city of Bombay is exceptionally good. Plague only exists in a mild sporadic form, and whilst the returns contain an unpleasant reminder of the presence of the dreaded scourge cholera, which is an ever-present menace during the rainy season, the city is in other respects free from serious epidemic disease. There were 6 deaths from cholera, as against 9 in the preceding weeks, and 2 of the former were amongst recent arrivals from up-country. Altogether the mortality declined from 539 to 524, the present death-rate being 27·81, which compares very favourably with the corresponding period of last year, and is greatly below the average of the past five years.

The Women's Medical Service in India.

Dr. Kate Platt, of the Women's Medical Service of India, on return from England has been posted to Simla in order that she may supervise the preparation of all plans and drawings for the new Lady Hardinge Medical College for Women at Delhi, for which she has been selected to be the first lady principal.

Infant Mortality in Burma.

In view of the alarmingly high infant mortality in Burma a memorial bearing the signatures of the wife of Mr. H. M. S. Mathews, I.C.S., Commissioner, and of a large number of other European and Burmese ladies has been forwarded to the Lieutenant-Governor praying that (1) the cadre of the Government Medical Department be amended by opening 21 of the appointments of assistant surgeons (25 being vacant on April 1st) to lady doctors; such women of this province as are already qualified and suitable it is suggested should be employed in some of the 21 towns now without female medical aid, the remaining vacancies to be filled in the same way as speedily as possible; (2) separate wards for maternity cases be provided in all Government hospitals where such wards do not now exist; and (3) all town authorities in large towns be urged to entertain visiting midwives. The death-rate for the whole of Burma last year was 107,967 children under 5 years out of 316,654 born that year, which indicates the serious loss in the population of its indigenous race in the province of 1 in every 3 children.

An Investigation into Diabetes at Madras.

In connexion with the investigation into diabetes by the Madras Government there was considerable speculation as to the identity of the anonymous donor who contributed Rs. 50,000 for the purpose, but it was known to many that the public benefactor was the Raja of Pithapuram, and this was confirmed by the publication of a Government Order on the subject. The Surgeon-General with the Government of Madras is requested to submit to the Government at an early date proposals for providing Dr. S. W. Patterson with the requisite subordinate staff, laboratory accommodation, and facilities for clinical observation, which are referred to in the letter from Sir James Kingston Fowler, trustee of the Beit Memorial Fellowships for Medical Research.

The Price of Quinine.

The fifty-second annual report on the Government cinchona plantations and factory in Bengal for the year 1913–14 mentions the conference between the Java planters and the European quinine manufacturers and bark importers, which was referred to in the previous report. At that time negotiations were still being carried on with a view to a settlement of the long-outstanding differences between these bodies, but these differences have now been settled and combination is an established fact. The effect of the agreement may be far-reaching. Already, after less than a year's working, the price for bark has risen from the minimum 5 cents imposed to 6·20 Dutch cents per unit, and there is every likelihood, according to the latest advices, of a further rise. This has had the effect of nearly doubling the price of quinine within the last three years, and has at once made the production of the alkaloid a profitable concern. The agreement would appear to be working smoothly, and already there are hints that it will be ratified at the end of the contract period; nor is the world's production any in excess of the growing market's demand. Unless unforeseen circumstances, such as the displacement of quinine by other drugs or increased acreages pointing to greatly increased production ensue, we may take it that quinine will remain at its present high level for some time to come.

Sept. 4th.

AUSTRALIA.

Medico-Social Legislation.

OUR legislators are quite active in medical directions just now. In New South Wales legislation is to be formulated dealing with the control of infectious diseases. Registration of dentists and veterinary surgeons will be required by law in the near future. In West Australia provision is to be made for the training of midwives—a maternity hospital will be erected in connexion with the scheme. A fund is to be provided in the same State to give aid to victims of miners' phthisis and their dependents, and homes for male and female inebriates are to be equipped. In this enterprising list of social schemes room has not been found for mention of vaccination, but in New South Wales cases of small-pox are of frequent occurrence.

Insanity in South Australia.

The annual report of the department for 1913 shows that the total number of insane under treatment was 1354, being a slight increase on the previous year. Of this number 779 were males and 575 females. The ratio of admissions to every 10,000 of population was 6·18 for 1913, as against 5·42 for 1912. The number of admissions was the largest yet recorded and about half the patients

admitted were Australian born. "The percentage of recoveries on admissions was good and above the average, and applied to both sexes." There were 110 deaths. The daily average cost per patient was 1s. 10d. The director of the Parkside Asylum says: "There is still plenty of accommodation for additional cases. Practically the hospital (which is in the city) is as much isolated as though it were some hundred miles in the country. When its accommodation is exhausted no other mental hospitals should be erected and scattered over the country, but mental asylums might be erected in the suburbs; these would contain the chronic insane past mental hope, and the medical attendance could be given by some local medical practitioner."

Prevalence of Diphtheria.

Diphtheria continues to show an increase in epidemicity over Victoria and Tasmania. In the past five years the returns for Victoria have shown an increase, and last year there were 5329 cases with 245 deaths. This year reports from all over the State indicate an increased prevalence, and there are over 200 cases in the Fairfield Hospital, Melbourne. The figures for Hobart show marked progression in incidence.

Medical Journalism.

At the end of June the *Australian Medical Journal* and the *Australasian Medical Gazette*, which were published respectively in Melbourne and Sydney, were discontinued and a new organ, the *Medical Journal of Australia*, has been established in Sydney as the organ of the British Medical Association in Australia. The Council of the Victorian branch passed the following resolution and forwarded it to Dr. Alex. Lewers, who had acted as editor for 11 years:—

The Council desires to acknowledge the great services rendered to the Victorian branch of the British Medical Association by Dr. Alex. Lewers, and to express its gratitude to him for his work as editor of the *Australian Medical Journal*, the official organ of the branch.

Resignation of Dr. T. B. Binnie.

Dr. T. B. Binnie has resigned his appointment as medical officer to the Children's Hospital, Melbourne. Dr. Binnie has been connected with the institution for more than 30 years and is one of the oldest specialists in children's ailments now practising in Victoria. Dr. Binnie has paid much attention to the question of congenital syphilis and some years ago published a small work dealing with the treatment of hip-joint disease.

August 15th.

ROYAL INSTITUTE OF PUBLIC HEALTH.—This institute has been authorised by the War Office to enrol recruits for the Royal Army Medical Corps. Men possessing special experience, or who hold sanitary or first-aid certificates, are invited to offer themselves for service. Applications, stating age, qualifications, &c., should be addressed to the Secretary, Russell-square, W.C.

LITERARY INTELLIGENCE.—Messrs. Longmans and Co. announce for immediate publication "The Essentials of Physiology," by Professor F. A. Bainbridge and Dr. J. Acworth Menzies, both of the University of Durham. The book is intended to present the fundamental facts and principles of physiology in a concise form, in order to meet the requirements of medical students preparing for a pass examination in physiology. The same publishers also announce a new part of "Quain's Elements of Anatomy," eleventh edition. This will be Vol. II., Part II., and will deal with splanchnology by Professor Johnson Symington, of Queen's University, Belfast.

THE LANDING OF THE REFUGEES.

(FROM OUR SPECIAL SANITARY COMMISSIONER.)

Tilbury, Sept. 19th.

TILBURY is just now a place of absorbing daily interest, for here one of the most affecting sides of the war, from which we fortunate islanders are segregated by the seas, is exposed to our view. The landing of the refugees from Belgium has been taking place at Tilbury for the last ten days regularly under the ægis of the Local Government Board, who are accomplishing a national duty for us and trying to discharge some of our immense debt to Belgium, amid the cheers of the general public that gathers to express sympathy with the sufferers and hearty approbation of the official action. Every day a ship arrives bearing the luckless ones from the seat of war. For the most part their homes have been destroyed and their livelihood gone, and many have to mourn the death and sometimes the murder of their nearest kin. Some are ill, some are wounded, many are hungry and insufficiently clothed. The task before their British hosts is a heavy one—such an episode as this shows how heavy. On one boat there was a child 4 years old who had strayed from some scene of horror, and instinctively following other fugitives had reached the protecting shelter of the Antwerp forts alone! No one knows who the child may be, or if its parents survive the recent torment. In another boat there were eight children, none of them older than 12 years, and each child was alone, absolutely friendless. They had been separated from their families in the destruction of their dwelling-places, and did not know if their parents had survived the ruthless invasion. Dumbfounded and miserable beyond description the crowd has pressed on to receive at British hands all the succour that can be improvised to meet their plight.

The Government, acting through the Local Government Board, began last week to take in hand the reception of the refugees, who, instead of landing at Folkestone in a haphazard way, are now for the most part conveyed to Tilbury daily in relays. If one day the boat does not run, two boats run the following day. This arrangement came into force at the end of the second week of September, and the well-known fleet of the Great Eastern Railway Company is employed for transport purposes. The popular passenger ships that at this season of the year are usually so crowded with happy tourists going to and from Harwich, Rotterdam, and Antwerp are now bearing over to our coast crowds of maimed or ruined war victims. From the devastated towns and villages of Belgium those who escaped with their lives very generally made their way to Antwerp as the one place too well fortified for the Germans to capture, except after a very long and arduous siege. And it is from Antwerp that the refugee ships start, the British Government wisely employing the passenger ships of the Great Eastern Railway Company which are in the habit of frequenting that port.

It was from the very circumstances of the case impossible to establish a regularity of numbers on each voyage, much as this would have simplified proceedings on this side. On Monday, Sept. 14th, no less than 925 nuns and refugees arrived; on the following Tuesday there were 784 refugees. The uncertainty as to the number coming is accompanied by an equal uncertainty as to the hour of their arrival, and this too adds greatly to the

complications which the Local Government Board have to meet. Thus, at first a thousand per day were expected, and now not half that number are likely to arrive. This has called for energetic service on the part of Sir Arthur Downes, chief Poor-law medical inspector, and Mr. J. S. Oxley, one of the Board's general inspectors. When, on Sept. 19th, I went to Tilbury with official sanction the *Brussels* was expected at 4 or 5 A.M. It had been arranged that she should anchor off the pier and that the passengers should be landed at 8 A.M. Consequently the medical officers, the agents, the interpreters and all others concerned had to be ready by 8 in the morning. But though they were all on the spot in good time the ship did not arrive. It had been held up by a Dutch cruiser and overhauled for contraband of war. From 8 in the morning till 5 in the afternoon the whole staff watched in vain, and this is one of the difficulties and inconveniences that must be faced. When I say that, I know that this particular difficulty would have been avoided if the wireless apparatus had not been removed from the ships; but in times of stress it is inevitable that now and again the unforeseen should happen.

Medical Inspection or Control.

On this occasion I was able to watch the entire process by which the danger of importing disease through the medium of the refugees is guarded against. The medical staff, some agents and interpreters, a few ladies who spoke Flemish, among them Mrs. Bateman, together with a trained nurse and myself, embarked on a tender and came up to the *Brussels* as soon as she had anchored in mid-stream. The medical inspection then took place on board the *Brussels*. We had with us on the tender a company of boy scouts—agile, intelligent, and most willing helpers. They were the first to leap on board the *Brussels*, and quickly found their way among the refugees. With smiles and expressions of kindness they assisted them to the gangway, carrying their bundles, and at the same time marshalling them so that they should pass out in Indian file. On each side at the gangway leading from the *Brussels* to the tender stood two medical officers; one represented the Port Sanitary Authority and the other the Metropolitan Asylums Board. This of necessity is only a rapid examination made as the passengers slowly pass by; but they had already been medically inspected before they embarked at Antwerp and are more carefully questioned on arriving at their destinations. If a case of infectious disease had been detected the patient would have been dealt with by the Port Medical Officer and a case of sickness by his colleague. Nothing of the sort occurred while I was there, and indeed there had not at that date been any case of infectious disease among our guests, although some of them were obviously very ill. Indeed, such a sight brings home to all of us present some of the horrors attendant upon war. There was one wretched man who had partially lost his reason. Nothing could persuade him while he was gently conducted to the train that he was not being led away solely for the purpose of being shot. On another occasion there was a woman just on the point of giving birth to a child. With the aid of an invalid's chair and with extensive and skilled precautions she was landed and conveyed to a hospital. Her case had been aggravated by a bad passage and sea-sickness, but she got within the building just in time. What that woman's mental and physical strain had been no words could begin to hint; one can only hope that she was for the time stunned into inability to realise her plight.

The Victims Pass First.

Women and children have constituted the vast majority of the refugees, and this was well illustrated on the *Brussels* when I met her. The vessel happened to be conveying an unusually small number of passengers, having on her only 32 men, 32 women, and 85 children, a total of 149. This was accounted for by the fact that the *Dresden* was expected the same evening with many more. It was a pathetic, a painful, and yet at times an inspiring sight to watch these poor people disembark. Some had thrown what worldly possessions they could save into a blanket, and were carrying this bundle slung over their bent shoulders. Others had so little they could easily lift it with one hand, and some had nothing at all, no hats to cover their heads, and barely clothes enough on their bodies. The ladies who spoke Flemish, taught by experience, had brought some clothes with them—wraps, skirts, or shawls—and gave these to the most needy. Prominent among these ladies I noted the tender attention bestowed on the women and children by Mrs. Bateman and Mrs. E. A. Footman. Their indefatigable zeal and familiarity with the Flemish language has been most useful. Then, also, it is a great advantage to have secured the services of persons who are accustomed to continental manners. Mr. E. A. Footman and Mr. Charles Heyermans, as Flemish interpreters and agents, are likewise giving valuable and gratuitous aid to the refugees and to the Local Government Board.

On board there were also a few paying passengers, but these ships are not run for profit. They are employed by Government in the performance of a national duty. Therefore not those who pay, but those whose need is greatest, pass first. The well-to-do traveller who can afford to meet his travelling expenses can also afford to wait a little, while those whose want is most urgent receive the first care. Only one or two passengers travelling first class showed by ill-timed resentment that they did not understand the great meaning underlying the slight delay to which they were subjected. Nearly all the paying passengers have throughout generously entered into the spirit of the occasion, and have been glad to stand aside from the gangway to let those who had suffered most land before those who had paid most.

Safety and Comfort.

When a boat with refugees arrives, and while the tender goes out to meet her, the station on the Tilbury Pier is railed off into two halves. The right side on landing is devoted exclusively to the refugees. The other side remains accessible to the ordinary railway travellers and to a crowd of people who come to see and welcome the refugees with well-meant if rather incongruous cheering. Lavatories, with inscriptions in Flemish, and attendants, especially women attendants for the mothers and children, have been arranged for the convenience of the refugees. On the reserve platform, where, needless to say, the Belgian and British flags wave greeting, steaming urns give promise of warm refreshment—tea, coffee, bovril. The busy scouts assist the women and children into the carriages and then bring them cakes and milk, and specially prepared milk-and-water for infants

and very young children. The luggage van, alas, contained so little luggage that it could be partially used for passengers. Here some particularly sick were put and kept apart. These are landed last of all and a doctor or a nurse, if necessary, can be provided to travel with them. In such cases full details are telegraphed on ahead, so that on arriving everything needed shall be ready waiting for the train. These trains go straight from Tilbury to the Alexandra Palace. To do this they have to travel over three different railway systems, and consequently change engine-drivers three times. In the course of the first week they conveyed 1500 refugees from the landing-stage at Tilbury right into the Alexandra Palace grounds. From Tilbury I travelled in this Government train, as it is called, as far as Plaistow; and here it stopped long enough for me to visit almost every carriage. After further refreshments at Plaistow half an hour's rest in the stopping train was enjoyed by the refugees and a great transformation could be seen to have taken place in their physical condition and *moral*. The dazed look and the haggard expression on many faces had disappeared, being replaced by bright and grateful smiles. The mothers held their little children out to me, and small hands folded round my finger with baby trustfulness, while the deep voices of men in faltering language strove to say that now they felt they were among friends and were safe. These Flemish folks knew enough French to convey that much in tones of heartfelt thankfulness.

Correspondence.

"Audi alteram partem."

ANTITYPHOID INOCULATION IN WAR-TIME.

To the Editor of THE LANCET.

SIR,—In my letter in THE LANCET of August 22nd I appealed for the support of the profession in the matter of antityphoid inoculation of the troops, and I have abundant evidence of the response, which has been of the greatest assistance to the Army Medical Service. In some of the letters which have since been published on the subject, both in the medical and in the lay press, and also in private communications to myself, there appear, however, some misconceptions which I may take this opportunity of removing.

A considerable number of medical men have offered, in a most generous fashion, to prepare the vaccine, to address the soldiers, or to carry out the inoculations in various areas. As far as possible I have replied personally to those who have made such offers, but it may be well to make the actual position more generally known.

1. *Compulsory inoculation.*—The military authorities have once more definitely pronounced against the inoculation being made compulsory, while renewing their instructions that no effort should be spared to induce the men to come forward.

2. *Preparation of the vaccine.*—Numerous and most generous offers to prepare vaccine have been received from laboratories and pathologists throughout the kingdom. As mentioned in my earlier letter, the arrangements made by the Vaccine Department of the Royal Army Medical College, with the assistance of the Lister Institute and of Sir Almroth Wright, have assured a supply of vaccine ample for all requirements. If it can be avoided it is undesirable that vaccine should be used differing, possibly, in constitution and in the method of standardisation from that which has proved of such value in the army in recent years. At the same time, all such offers have been carefully recorded, and we should not hesitate to avail ourselves of them should the need arise.

3. *Distribution of the vaccine.*—It will be obvious that it is essential from an administrative point of view, and to avoid confusion and overlapping, that all vaccine should be issued from one central place. This has been arranged for, and all vaccine is stored at and issued from the Vaccine Department, Royal Army Medical College, London.

4. *Influencing the officers and men.*—All medical officers of the Regular and Territorial Forces were instructed in their duties in this direction within the first few days of mobilisation and were furnished with full information as to the procuring of vaccine and the carrying out of the inoculations. Steps have also been taken, through the usual official channels, to keep touch with the progress of inoculation and to see that it is efficiently carried out. To assist in the work I have myself been directed to visit the various Commands, and in the last few weeks have interviewed general officers and the commanding officers of a large number of units, explaining to them the subject and inviting, in the name of the War Office, the exercise of their personal influence upon the officers and men serving under them. The response has invariably been most cordial, and in most cases has resulted in the prompt inoculation of practically all officers, and in steady progress with the men.

5. *The carrying out of the inoculations.*—This is the duty of the medical officers and is carried out under the directions of the Assistant Director of Medical Services of the division. In some instances, however, the local assistance of trained pathologists has been offered and accepted, and I feel sure that such voluntary trained help might be most welcome in other stations where the pressure of routine medical and sanitary work is heavy.

In spite of the absence of compulsory powers there is good reason to anticipate that the voluntary response will be almost universal.

I am, Sir, yours faithfully,

W. B. LEISHMAN,
Colonel, R.A.M.C.

War Office, Sept. 15th, 1914.

OSTEO-ARTHRITIS OF THE HIP-JOINT.

To the Editor of THE LANCET.

SIR,—In a letter to THE LANCET of Sept. 12th Dr. W. Bruce has been kind enough to refer to our paper on the diagnosis of this condition in its early or pre-osteophytic stage. While appreciating the notice taken of our contribution we would, however, venture to dissociate ourselves from Dr. Bruce's sweeping generalisation that most, if not all, cases of sciatica are really examples of osteo-arthritis.

We demur strongly against the assumption that sciatic pain is pathognomonic of this affection, inasmuch as the pains are with equal frequency referred along the anterior crural and obturator trunks. In our experience, if there be any diagnostic significance attaching to these referred pains it is their simultaneous incidence along the back and front of the thigh—viz., along the sciatic as well as the obturator or anterior crural branches. At the same time, while not under-estimating the importance of these referred pains, we are of opinion that the local pains experienced in the groin and gluteal region due to capsular involvement are far more trustworthy indications of the arthritic site of the disorder in any given case. It is the undue emphasis laid by Dr. Bruce on the sciatic pain that we join issue with, and still more his claim that pain along this trunk is always indicative of osteo-arthritis. This is certainly not so, and in our opinion the diagnosis cannot be established unless these local and referred pains are associated with slight hip flexion and lordosis combined with

limitation of mobility, more particularly in the direction of abduction. Given the presence of these unequivocal signs of hip disorder we consider that the diagnosis of incipient osteo-arthritis is justifiable even should skiagraphy disclose the absence of bony outgrowths.

While paying our tribute to Dr. Bruce's work on sciatica, we must confess that the impression left on our mind was that its perusal by anyone of slender experience would lead to the conclusion that there was no such thing as primary sciatica, and, moreover, that of secondary types of sciatica the particular variety associated with osteo-arthritis was the only one calling for special mention.

We are the more surprised at this attitude in that the author in his section on etiology notes the frequency with which gout figures in his series of examples. Now there are few who will gainsay that gout apart from any hip mischief is frequently responsible for sciatica. But such cases of gouty sciatica do not as a rule endure beyond 12 months, and more frequently they clear up sooner or alternate with other gouty manifestations. On the other hand, sciatica secondary to osteo-arthritis is not so persistently continuous, but consists rather of recurring bouts of sciatic neuralgia extending maybe over years. It is this obstinate recurrence that is so distinctive of sciatica secondary to hip disorder.

Another omission in Dr. Bruce's work is the absence of any allusion to those types of sciatica which ensue secondarily to gluteal and crural types of fibrositis whose relationship to "spurious and genuine sciatica" we have dealt at length with in the current issue of the *Edinburgh Medical Journal*. Moreover, no note is taken of the fact that disease of one other important joint, the sacro-iliac synchondrosis, is almost invariably attended by pain along the sciatic area, and we would add that it is not to tuberculous disease of this articulation that we allude, but to the infinitely more common condition—relaxation of the sacro-iliac ligaments.

Finally, it need hardly be said that in approaching any given case marked by sciatic pain we should never lose sight of the all-important fact that it may be an early symptom of increased intra-pelvic pressure by growths, &c., whose non-recognition places the physician in an unenviable position, none more so. We make these criticisms in no carping spirit, but rather with the object of emphasising the fact that cases of sciatica should be approached in a more catholic frame of mind, having regard to the fact that the long extended course of the nerve exposes it to multiple contingencies—hence the numerous pitfalls into which the unwary often and even the prudent occasionally fall. We are, Sir, yours faithfully,

A. BASSETT JONES,
R. LL. J. LLEWELLYN.

Aberystwith, Sept. 16, 1914.

MINERS' PHTHISIS ON THE RAND.

To the Editor of THE LANCET.

SIR,—Under the above heading in THE LANCET of July 11th last is a letter from Mr. Philip H. Franks, B.Sc. (Mining) Birm., in which a somewhat personal attack is made on Mr. Aymard and myself for daring to write on such a subject as "mortality on the mines." I did not at first think the letter of importance enough to call for a reply, but it has been so often mentioned to me that I trust you will spare me space for a few words on it.

Mr. Franks takes exception to a phrase in my paper in THE LANCET of April 11th thus: "..... 'callous, inefficient administration,' to quote Mr. Brock, I can confidently affirm that out of an average of nine developers I had on my section when shift bossing, only two made proper use of the water the mine supplied." A little further on, in giving his ideas of how to correct maladministration and eliminate mortality, he continues: "This would remove what I consider the curse of the present system—viz., a miner earning, say, from £40 to £150 per month being under the charge of a shift boss who is paid often as low as £30 per month. What a chance for bribery!"

My paper did not throw mud at any individual or class of individuals as being the cause of the "present system" of "callous, inefficient administration" of which Mr. Franks gives such a convincing example from personal experience with such extreme frankness; but the endeavour was made to bring into relief the underlying causes of the great mortality in these mines, and thus to indicate "the trend of the measures which should be taken to remove them," &c. I think the phrase "callous, inefficient administration" wide enough to embrace his case and, from a medical point of view, a great many more of which even a mining engineer is entirely ignorant. It is worthy of note that Mr. Franks "has now given up mining on account of silicosis" after working on the Rand mines "for a period just exceeding three years."

I am, Sir, yours faithfully,

BEN. GEO. BROCK.

Germiston, Union of South Africa, August 24th, 1914.

WORK WITH LA CROIX ROUGE.

To the Editor of THE LANCET.

SIR,—In view of the discussion as to the use of expanding or Dum-dum bullets by the Germans I am in a position to offer positive evidence in at least one case.

In this ambulance, where I have volunteered for temporary duty as surgeon in charge, I have under my care a French soldier in whom the bullet wound of entrance on the left side of his face is round and clean cut, while that of exit is a cavity formed by the tearing away of a great part of the right side of his face, involving the loss of the superior maxilla, malar, and part of the temporal bones. It is the opinion of the French and American surgeons who preceded me in charge, and in which I entirely concur, that nothing but an expanding bullet could have caused such destruction. In view of the caution given by the British press I brought no camera, but the American surgeon whom I relieved took a photograph which will no doubt appear in the American surgical journals.

During the German occupation of this town there were 192 wounded here, including 20 British and 6 French, from the surrounding battlefields. On the fourth day a German surgeon, the only one during that period, visited this ambulance—not, however, to relieve the sufferings of even those of his own nation. He took no notice of these, but he carefully examined the wounds of the British and French, which were in nearly all cases in the lower limbs. When the German retreat began they took away the French and British as prisoners, abandoning their own wounded, who were treated with every care and even kindness when the British and French reoccupied the district.

An immediate sequel to this German surgeon's

visit was an influx of British and French wounded all hit, so to speak, above the belt, in the head and chest. The conclusion drawn by all the French and Americans who witnessed his conduct is that he came here solely to correct the elevation of the German rifles. From what I have seen of the German wounded our side stands in no need of any such correction, but I am glad to believe that no French or British army surgeon would lend himself to such calculations, so unworthy of our profession.

I should like to add that operating surgeons are much needed in advanced ambulances such as this where wounded in urgent need of operation arrive daily. British or other surgeons willing to take a turn of this duty, if even for only a week or two, will be as heartily welcomed as I have been. They should apply preferably to La Croix Rouge Française, 21, Rue François Ier, Paris. I expect to be at my London address (6, Manchester-square, W.) on Sept. 25th, and should be happy to give them any assistance in my power.

A French friend starting for the coast has kindly undertaken to find someone who will post this in London. I am, Sir, yours faithfully,

JAMES DONELAN.

Ambulance de la Croix Rouge Française, Crépy-en-Valois, Sept. 9th, 1914.

ORAL AND AURAL SEPSIS.

To the Editor of THE LANCET.

SIR,—The public should by now be well informed as to the dangers of oral sepsis. I can endorse Mr. Morton Smale's remarks in his sensible letter in THE LANCET of Sept. 12th as to the way people discuss pyorrhœa. Septic auto-inoculation, however, in its severe forms is more commonly the result of neglected ear disease. Neither the public nor the profession seem as yet to appreciate fully the importance of ear infection. The mouth is constantly being washed out, so to speak, the ear only by syringing, often badly done. How many of our soldiers have gone to the front with infected ears!

I am, Sir, yours faithfully,

Wimpole-street, W., Sept. 11th, 1914. F. FAULDER WHITE.

THE BRITISH PHARMACOPŒIA.

To the Editor of THE LANCET.

SIR,—At its meeting on Sept. 15th the Executive Committee of this Council received a report by the Registrar on the postponement of publication of the British Pharmacopœia, 1914, which had been rendered necessary by the events of the last month.

It was resolved by the committee, on behalf of the Council, that copies in advance of publication should be made accessible to the public for inspection at the offices of the Council in London, Edinburgh, and Dublin on Thursday, Oct. 1st, 1914, at 10 A.M., and thereafter from 10 A.M. to 4 P.M. daily, and that a copy for review should on the same day be placed in the hands of the editor of each of the medical and pharmaceutical journals in the Registrar's list.

The official publication of the work will be made by notices in the *Gazette* on Thursday, Dec. 31st, 1914, on which day copies will be on sale at the price of 10*s.* 6*d.* net, by the publishers, Messrs. Constable and Co., Limited, 10, Orange-street, Leicester-square, London, W.C.

I am, Sir, yours faithfully,

A. J. COCKINGTON,
Acting Registrar.

General Council of Medical Education and Registration of the United Kingdom, Oxford-street, London, W., Sept. 22nd, 1914.

CITY OF LONDON TERRITORIAL FORCE: VACANCIES FOR MEDICAL OFFICERS.

To the Editor of THE LANCET.

SIR,—In accordance with the orders of the Secretary of State for War it has been decided to raise reserve units of the Territorial Force. Consequently, there are vacancies for a number of medical officers in the Royal Army Medical Corps units of the 1st London Division. These are the 1st, 2nd, and 3rd Field Ambulances, and a Sanitary Company.

Gentlemen who desire commissions should apply by letter in the first instance to the secretary of the City of London Territorial Force Association, Friars House, New Broad-street, E.C.

I am, Sir, yours faithfully,

W. CAMPBELL HYSLOP,
Lieutenant-Colonel, Secretary.

Sept. 22nd, 1914.

UNIVERSITY OF BIRMINGHAM: FACULTY OF MEDICINE.—The opening ceremony, which was to have been held in the first week of October, and for which a medical and biological kinematograph demonstration had been arranged by Messrs. Pathé Frères, has been cancelled owing to the war.

POOR-LAW MEDICAL OFFICERS' ASSOCIATION OF ENGLAND AND WALES.—A council meeting of this association was held at 34, Copthall-avenue, E.C., on Sept. 14th, Surgeon-General G. J. H. Evatt being in the chair. With regard to the appointment of a delegate to represent the association at the Congress of Social Work and Service in 1915 it was agreed that this should be postponed. The honorary secretary reported that the attempt of the Isle of Wight guardians to vary the Poor-law Orders by authorising individual guardians to grant medical orders in cases of emergency had not succeeded. A letter was read from the Local Government Board acknowledging the receipt of a copy of the council's report on the Poor-law Institutions' Order (1913). The honorary secretary said that this report had been widely circulated and had met with general approval. With regard to the Burnley dispute, the honorary secretary reported that mainly owing to the war the local profession at Burnley had decided to come to a temporary agreement with the guardians and support their arrangements for medical relief in the union till the political atmosphere became clearer, so that a temporary agreement had been come to which might possibly result later in a final one. The council unanimously approved of what had been done. The honorary secretary reported that he had been informed that the Bethnal Green guardians were approaching the Local Government Board with a view of abolishing their present district medical officers and replacing them by whole-time medical officers resident at the infirmary. He thought that the association should strongly oppose this project. There were no special reasons for such a change in the Bethnal Green area, and the interests of the sick poor were much better safeguarded by the present system. The council were unanimously opposed to extending the Bermondsey scheme to other districts. In a discussion on the effect of the war on the work of the Poor-law medical officers it was thought by the council that this work would be considerably increased. There had been large funds collected to meet the needs of dependents of those engaged in the military and naval service of the country; notwithstanding a considerable portion of the medical attendance on this class would probably be given in one way or another by Poor-law medical officers. Then there would be those thrown out of work by the war and their dependents. Already the number of medical orders issued in various unions had been greatly increased. It was agreed that it was the duty of all Poor-law medical officers to do their utmost to assist any of their brethren who were called upon, or had volunteered, to assist the State in carrying on the war; but if Poor-law medical officers were employed to attend on sickness arising among German prisoners of war it was only right that extra payment should be made them for such services.

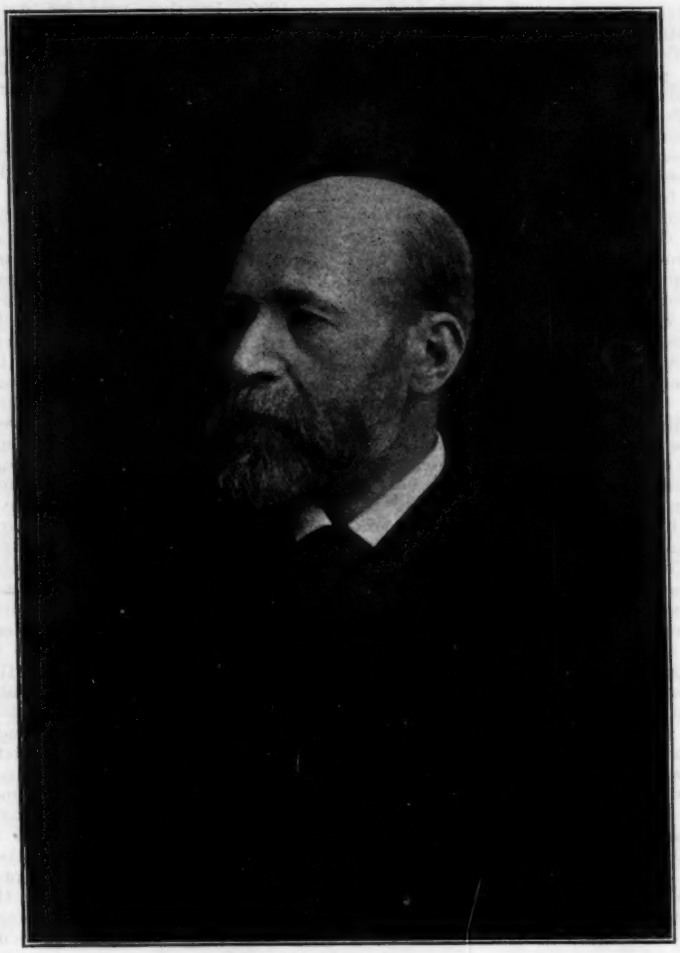
Obituary.

SIR HENRY GREENWAY HOWSE, M.S. LOND., F.R.C.S. ENG., D.SC. VICT. (HON. CAUSÂ),

CONSULTING SURGEON TO GUY'S HOSPITAL; LATE PRESIDENT OF THE ROYAL COLLEGE OF SURGEONS OF ENGLAND.

WE regret to announce the death of Sir Henry Greenway Howse, which took place at his residence, the Tower House, Cudham, Kent, on Sept. 15th, in his seventy-fifth year.

Sir Henry Howse was the second son of the late Mr. Henry Edward and Isabella W. Howse, and was born at Lyncombe Hall, Lyncombe Vale, Bath, on Dec. 21st, 1841. He was educated at University College School, and after a year's private tuition, during which time he matriculated at the University of London, he began his medical curriculum in the old-fashioned way as an articled pupil to Mr. J. W. Workman, of Reading. He stayed with Mr. Workman for two years, and entered Guy's Hospital in 1861. He took prizes at the end of the succeeding three years, and passed the preliminary scientific examination of the University of London in 1863, gaining the Biology Exhibition. In the same year he won the gold medal in Botany at the Apothecaries' Hall. In 1864 he obtained the exhibition in Physiology at the University of London, and qualified in 1865 as a Member of the Royal College of Surgeons of England. In the following year he proceeded to the M.B. degree of the University of London, taking the gold medal in Obstetrics, and a year later, when taking the B.S. degree, won the surgical scholarship. He was dresser to Mr. Hilton at this time, and always spoke with gratitude of the debt which he owed to that distinguished man. In 1867, after a short interlude in Paris, he served as house surgeon. He took the M.S. degree in 1868, and passed the Fellowship of the Royal College of Surgeons of England in the same year. He now commenced teaching in the medical school of Guy's Hospital organising classes in microscopical anatomy, and in 1868 became demonstrator of anatomy and in 1870 assistant surgeon to the hospital, and about the same time surgeon to the Evelina Hospital for Sick Children.



SIR HENRY GREENWAY HOWSE.

The earliest hospital work undertaken by Howse was the introduction of Lister's antiseptic treatment into the wards of Guy's Hospital and of the Evelina Hospital, and we may here quote from some simple and modest autobiographical notes which have been placed at our disposal. "As house surgeon," he says, "I had made some imperfect attempts in the same direction, but they mostly failed, owing to the strength of the carbolic acid being too great and to the imperfections of the method used. Now, however, I spent part of my summer holiday of 1870 in Edinburgh, going round with Mr. Lister (as he then was) and watching his methods. Although I went with a very open mind, I came back convinced that, imperfect as the methods employed then were, there was a scientific basis of truth in the proceedings adopted, and determined to try and improve them for myself. It should be remembered that this was the age of the lac plaster and of the carbolic putty. Gauze even was not used at the time of my visit. An abscess was opened by covering the surface with carbolic lac plaster, and plunging a knife through it into the abscess cavity. There was no spray, but an operation was done with an assistant following the

incisions with a large syringe charged with carbolic lotion, or a little later by a nozzle on the end of a long elastic tube coming from a small cistern raised above the operating table.

Imperfect as these methods clearly were, I came to the conclusion that they were capable of giving better results than those in use before. Shortly after my return to Guy's Mr. Davies-Colley was appointed assistant surgeon, and he, watching the results in my cases, agreed with me also to adopt the system. It is curious that the evolution of the hand spray occurred to us independently and at the same time as to Mr. Lister, the idea having been suggested to our minds by the use of the "styptic colloid" apparatus invented by Dr. B. W. Richardson. The invention of the steam spray, which, later on, swept away the hand sprays, was one with which we had nothing to do. It must be remembered that the condition of the wards of all our metropolitan hospitals (Guy's not excepted) was at that time very different to the present. Cases of erysipelas and pyæmia were frequent. At Guy's we had two wards, one male and the other female, devoted to the treatment of these cases, mostly filled by patients transferred there from the general wards. One of the earlier remarkable results which struck us was that operative surgery under antiseptic precautions could be performed as safely in these wards as elsewhere. The evolution of antisepticism was, of course, gradual. We had to struggle against much prejudice and opposition. Even ridicule was heaped on us. At the present day no conception can be formed of all this."

One of the earlier of Howse's ideas in surgery, as the result of the success obtained by antiseptic methods, was the reintroduction into surgical practice of ligature and excision of veins for the cure of varices, whether of the lower extremity, the scrotum, or elsewhere. The results of these operations were shown in a paper in *Guy's Hospital Reports*, 1877. Though this was not the earliest paper published on this subject, one by Mr. Davies-Colley (two cases) and one by Professor John Marshall (one case) having preceded it, yet the dates of the operations show that Howse had adopted the practice at a period before their cases. This operation, which had been abandoned from the time of John Hunter and Sir Everard Home on account of the numerous septic deaths occurring after it, is now a common and successful procedure in surgery. The two-stage operation in peritoneal cases, where a hollow viscus such as the stomach, colon, or other portion of the intestine had to be opened, was also introduced into surgery by Howse. Originally applied to the stomach for gastrostomy in cases of epithelioma of the œsophagus, it was soon applied to colotomies. The method is, of course, not so frequently applied now as it was a few years ago, the necessity to delay the opening of the bowel not being often present. Excision of joints was also a subject Howse worked at greatly. He wrote a paper on excision of the knee, showing the ultimate result of 140 cases, all of which he had excised. This was published in *Guy's Hospital Reports* for 1892, vol. xlix., many years after the operations. The great success which attended these cases caused the operation to become a common one at the time, at any rate at Guy's Hospital, and it has maintained this position ever since.

To return to Sir Henry Howse's official career, in 1871 he resigned the demonstratorship of anatomy at Guy's Hospital and was appointed joint lecturer, with Mr. Durham, on this subject. This post he held till 1888, when he was appointed joint lecturer on surgery, which position he retained till his final resignation in March, 1902. In 1875, on Mr. Birkett's resignation, he was promoted full surgeon to Guy's Hospital, retaining the office till this year, when he was appointed consulting surgeon.

At the Royal College of Surgeons of England Sir Henry Howse was a distinguished figure. Elected in July, 1889, a member of the council of the College, he served the office of junior Vice-President in 1897 and of senior Vice-President in 1899. In this year he gave the Bradshaw lecture on the present condition of surgery as compared with what it was 100 years ago.[1] In this year, also, on the outbreak of the South African war he occupied the Presidential chair at the College for six months during the late Sir W. MacCormac's absence at the seat of war, being elected President in 1901. He held the presidency for three years, and received the honour of knighthood in 1902.

Dr. Hale White has sent us the following personal recollections of his dead teacher and friend:—"My recollections of Sir Henry Howse go back to the late 'seventies,' for I was full dresser to him for six months in 1878–79, and I had previously been his clinical clerk. There was much competition to dress for him; his 'firm' were very proud of him, and this for many reasons. In the first place, we knew that he was the first great surgeon in London to go to Edinburgh to study Lister's methods. This he did in 1870, and in the same year began to treat cases in Guy's by Lister's method. In that year and for four years after he, together with Mr. Davies-Colley, had charge of the wards set aside for erysipelas and severe septic cases, and even in these unfavourable surroundings he was able to do amputations and other severe operations with safety provided Lister's directions were carried out. In the general wards operations on bones and joints from which most surgeons shrank were performed by Henry Howse. We felt it to be an honour to be working under a surgeon who was in advance of the general run of surgeons in London, and we rather enjoyed the sarcasms which were levelled at our chief by his unprogressive elders. It is almost impossible to imagine now the opposition to Listerism in London in the early 'seventies.' Howse never talked much about the superiority of Lister's method; he took it for granted that we could by seeing his results judge for ourselves, and certainly each of his successors as they came on the staff practised it, so that by the time he became full surgeon every assistant surgeon was treating wounds in the reformed way and with the same results. Compound fractures that most surgeons would have despaired of were successfully cured. In every department of surgery Howse was always ready to examine the newest suggestions and adopt them if they were sound, and the feeling that we were working with a man who was on the side of progress and did not receive new ideas in a carping spirit was an immense stimulus to his dressers, who naturally did their utmost to make everything with which their chief had to do as great a success as possible. Such a master made us think and opened our eyes to the great possibilities of surgery. As a teacher

[1] THE LANCET, Dec. 23rd, 1899, p. 1717.

he would take infinite trouble. He was a clear thinker; he expressed himself exactly and interested the men thoroughly. Naturally he had a large following with him when he went round his wards, because men came to see the new antiseptic surgery, but even when there were no operations or dressings to be done and he was only teaching surgery many came round with him. At the extremely inconvenient time of Saturday afternoon he used to have a clinical class for discussing the diagnosis of difficult cases; but in spite of the time chosen these classes were highly popular because the cases were discussed so clearly and thoroughly that everyone went away having learnt. The teaching was not eloquent and no brilliant things were said, but it was so thorough and the teacher took such infinite pains that it was easy to understand why the classes were so large. I ought to add they were not compulsory. Working with Howse meant hard work, but no one could by example have made his dressers more willing to work, and it may be truthfully said that every one of them thoroughly enjoyed working for him, and felt that he was privileged in being a member of the Howse firm. He was the only surgeon who went round his wards on Sunday, but his dressers turned up regularly every Sunday morning at 10 o'clock, however far off they lived; and these quiet Sunday morning rounds were much appreciated. His kindness to dressers and patients alike turned mere admiration into real affection. No trouble seemed too great for him. I have seen him after his rounds spend a long time trying to mend a doll belonging to a little girl patient; and when any student in after life was overtaken by illness Howse was kindness itself. He was an excellent colleague, never shirking the less ornamental work of a hospital teacher; he was punctual in attending all hospital meetings, and his advice at them was always sound. Indeed, as a surgical pioneer, as a teacher, and as a worker in the administration of the school he was an invaluable asset to the Medical School of Guy's Hospital, and few of those who have been on its staff have done more for it."

After his retirement from practice Sir Henry Howse went to live at Cudham, Kent, and died there. The funeral took place at St. Luke's Cemetery, Bromley, there being present, in addition to Sir Henry Howse's son and his brother-in-law, Dr. W. L. H. Marshall, J.P., Sir W. Watson Cheyne, the President of the Royal College of Surgeons of England, Sir James F. Goodhart, Sir W. Arbuthnot Lane, Dr. Frederick Taylor, Dr. W. Hale White, Dr. G. Newton Pitt, Mr. C. H. Fagge, and Mr. F. J. Marshall.

CHARLES STEELE, M.D. DURH., F.R.C.S. ENG., L.R.C.P. LOND.,

LATE SENIOR SURGEON, BRISTOL ROYAL INFIRMARY.

Dr. Charles Steele died at his residence, Clifton Villa, Clifton, on Sept. 20th, after a long illness. Dr. Steele was born at Macclesfield, and was the son of the late Rev. John Steele, vicar of Christ Church in that town. He received his medical education at Bristol, and became M.R.C.S. Eng. in 1860 and L.R.C.P. Lond. in 1861, taking the F.R.C.S. Eng. by examination in 1869. After qualifying he commenced practice at Clifton. He was formerly surgeon to the Bristol Royal Infirmary and lecturer on physiology at the Bristol Medical School, and at the time of his death he was consulting surgeon to the Bristol Children's Hospital.

Dr. Steele had at one time a very extensive practice, private and consulting, and had contributed valuable material to the medical journals. He was highly esteemed in Bristol and Clifton, and had been a member of the council of the Bath and Bristol branch of the British Medical Association. He was in his seventy-seventh year, and leaves a widow and five children—four daughters and one son—to mourn their loss.

DAVID JOHNSTON, M.D. R.U.I., M.CH., L.M.

BY the death of Dr. David Johnston, which occurred on Sept. 11th, the community of Holywood, co. Down, have sustained a real loss. A native of Holywood, Dr. Johnston studied at Queen's College, Belfast, and in 1870 graduated M.D. of the old Queen's University, Ireland, and M.Ch. and L.M. in 1873. Starting practice in his native town he lived there all his life, and in addition to carrying on a large practice he served his neighbours in a variety of ways. When a younger man he acted as chairman of the Holywood town commissioners, and up to the time of his death he was the local registrar of births, marriages, and deaths. He was a man of diverse tastes, and, an accomplished musician himself, he did everything to advance the study of music around him. His personality and his professional knowledge gained him wide popularity and consideration. He leaves a widow and family of two daughters and one son, Dr. H. M. Johnston, who is resident medical officer of the Royal Victoria Infirmary, Newcastle-on-Tyne.

GERALD GRACE, L.R.C.P. LOND., M.R.C.S. ENG., L.M.S.S.A.

Mr. Gerald Grace, on Sept. 15th, whilst driving in his motor-car near Springs, in the Transvaal, was shot dead by the police, who unfortunately mistook his automobile for that of one belonging to the Jackson gang of desperadoes. It will be remembered that General Delarey, on the same day, was killed under precisely similar circumstances. Mr. Gerald Grace, who was in his forty-eighth year at the time of his death, was the second son of Mr. Alfred Grace, M.R.C.S., of Chipping Sodbury, Gloucestershire. He received his medical education at Bristol and at Guy's Hospital. After qualifying he served as surgeon on the South African Union Line of steamers and there made the friendship of the late Mr. Cecil Rhodes and Sir Starr Jameson. He was civil surgeon during the South African war, and was attached to the 83rd and 84th Battery of the Royal Field Artillery, and went with Lord Roberts's column from Bloemfontein to Pretoria, and later he was attached to the hospital at Johannesburg. He was awarded the medal with six clasps. At the conclusion of the war Mr. Grace married and commenced practice at Springs, Transvaal. He soon became very popular, and quite recently was elected mayor of the town.

CENTENARIANS.—Mrs. Allen, of Bath, celebrated the hundredth anniversary of her birthday on Sept. 14th.—On Sept. 21st Mr. James Newth, of Dursley, completed his 100th year. His health is good.

QUEEN'S UNIVERSITY OF BELFAST.—Of the eight gentlemen elected on Sept. 9th as representatives of Convocation on the Senate of the Queen's University of Belfast—to hold office for five years—the following four are medical graduates: Dr. J. W. Browne, Dr. W. Calwell, Dr. R. W. Leslie, and Mr. T. S. Kirk.

THE WAR.

THE ORGANISATION OF MEDICAL SERVICE IN THE FIELD.

AT the present time it may be of some interest to our readers to give a short account of the system of dealing with casualties in action and with cases of sickness amongst the troops on active service.

Division into three zones.—The medical organisation of an army in the field is divided into three zones: the collecting zone, the evacuating zone, and the distributing zone. This division of the areas of action of the medical force, with a clear delimitation of their respective responsibilities, is due to the late Sir Thomas Longmore, for many years professor of military surgery at the Army Medical School, Netley.

Collecting zone.—The collecting zone corresponds with the area of active military operations, the fighting-line and its immediate supports; here are the regimental medical establishments and the field ambulances. Every battalion of infantry, regiment of cavalry, and brigade of artillery is accompanied by a medical officer, who has with him three or four men of the Royal Army Medical Corps and regimental men acting as stretcher-bearers, who have been trained in first aid. These men during an engagement apply a first field dressing and give first aid generally to the wounded; they then remove them if possible from the firing line to the nearest and most suitable cover, where is established a regimental aid post. In action against a civilised enemy no one except the stretcher-bearers is to carry a wounded man to the rear unless specially ordered to do so. The field ambulance is divided into three sections, each of these consisting of a bearer subdivision and a tent subdivision. The duty of the bearers is to collect wounded from the regimental posts and bring them to the ambulance wagons or to a dressing station, these dressing stations being established by the tent subdivision of the ambulance. (It is to be noted that the word *ambulance* signifies the unit of organisation, and not, as often used in popular phraseology, a wagon for transporting sick or wounded men.) While, during the continuance of a battle, the bearer parties convey as many wounded as possible to cover, the main work of collection and removal from the area of fighting takes place after the battle is over. But in these days of prolonged actions extending over many days and a very wide area, attempts are made to collect the wounded when practicable. When the action is over, it may be necessary to detail detachments of fighting troops to aid in this work, making a systematic search over the whole ground. To every wounded man a specification tally is attached, giving his name and regimental number, and an indication of the nature and severity of the wound. The ambulance wagons convey the wounded to the dressing station, which is established in a suitable building, if available—failing these, in tents. The selection of the location of a dressing station is an important matter, and a great deal depends on its suitability or the reverse; it must be as far forward as is consistent with reasonable safety, yet must be accessible to vehicles, have a good water-supply, and if possible be in a suitable building rather than under canvas.

Evacuating zone.—In the evacuating zone the medical service consists of clearing hospitals, ambulance trains, advanced medical store depôts, and in certain cases stationary and general hospitals; these units belong to the line of communications. The clearing hospital is considered to be "the pivot upon which the removal of the sick and wounded turns": to it converges the collecting zone, and from it diverge the evacuating and distributing zones. There is one clearing hospital for each division of the field army, and where suitable buildings are available they should be used. Whether buildings are used or tents it is absolutely necessary that the area should permit of great expansion, though the hospital is nominally equipped for 200 sick. From its personnel are detached from time to time parties to establish rest stations, a series of these constituting a column by which evacuation of the wounded or sick takes place. The clearing hospital relieves the ambulances and passes sick and wounded down the line of communications. It must not itself become clogged, and yet care must be taken not to send men away down the line of communications who may in a short time be well enough to do duty at the front. Ambulance trains are mobilised in the proportion of one to each division of the field army; evacuation of sick and wounded by railway transport is the best and speediest method, and is adopted wherever feasible. Ambulance wagons are not as a rule sent further from the medical unit to which they belong than would allow them to return the same day; where railways are not available all suitable vehicles that can be obtained locally may have to be utilised. Transport by water may be the best method, and is well adapted for serious cases.

(*To be continued.*)

THE GENERAL MEDICAL COUNCIL AND THE POSITION OF MEDICAL STUDENTS.

At the last meeting of the Executive Committee of the General Medical Council, held on Sept. 15th, the President, Sir Donald MacAlister, read correspondence with several of the licensing bodies in regard to the position of students who were absent on service during the war, and an answer which it was proposed to send in such cases. The committee approved of the terms of the President's letter as drafted, namely:—

With regard to the courses of study and examinations prescribed for professional qualifications, it is the statutory duty of the General Medical Council to secure the maintenance of such a standard of proficiency as shall sufficiently guarantee the possession by candidates of the knowledge and skill requisite for the efficient practice of their profession. To this end the Council has formulated, for the guidance of the licensing bodies, a series of recommendations respecting such courses. These recommendations represent in general terms the minimum curriculum which, in the Council's opinion, should be required by the licensing bodies, and the Council notes with satisfaction that the regulations of the several bodies give effect to them. Cases may arise in which, during the present national emergency, the bodies deem it expedient to modify or suspend the application of their regulations to particular candidates; but the Council expects that all such cases shall be duly recorded and reported to the Council in the usual way. The Council feels sure that, in dealing with applications for modification or suspension of their regulations, the bodies concerned will recognise the importance, in the public interest, of maintaining unimpaired the present standard of knowledge and skill required of all who seek to be admitted to the status and privileges of registered practitioners, and will accordingly agree with the Council that it is desirable to

secure, in every instance, that the requirements of the minimum curriculum are substantially fulfilled.

The President reported that Mr. Norman C. King, General Registrar, had been called to serve as major in His Majesty's Territorial Force, and would in consequence be unable to give regular attendance at the office for the present. The committee expressed its good wishes to Major King, gave him leave of absence for the duration of his active military service as from Sept. 15th, and appointed Mr. A. J. Cockington to be acting registrar.

A USEFUL SANITARY SERVICE.

The mobilisation of the Territorial Force and the active recruiting for the Regular Army have led in London, as probably elsewhere, to the concentration in buildings of large numbers of men who as a result are in some instances, perhaps often, inadequately supplied with the opportunities for personal cleanliness to which they have been accustomed in their own homes. To meet this temporary difficulty a number of the London sanitary authorities have permitted soldiers in uniform to make use of the public baths in their districts without charge. In some instances, where uniform has not yet been provided, the written statement of an officer has been accepted that those wanting baths belong to the military force, and again the assurance of the recruiting officer has enabled recruits to be cleansed before being medically examined. This is a valuable service which deserves recognition, and it would be a great gain if the action of the city and borough councils in London, who have thus aided the military authorities, were extended throughout the whole of the County of London. Indeed, why should not these opportunities for cleansing be made available in all districts for soldiers and recruits, whether with or without uniform?

MEDICAL CASUALTIES AT THE FRONT.

The following casualties to officers of the Royal Army Medical Corps and the Royal Naval Medical Service on active service have been reported:—

Killed: Captain Frank Forrest, Captain Thomas Scatchard, and Lieutenant Arthur Keith Armstrong. *Wounded:* Lieutenant-Colonel Charles Dalton and Lieutenant Edwin Joseph Wyler. *Wounded and missing:* Captain Malcolm Leckie. *Missing:* Captain William Irwin Thompson, Captain Edward Meredyth Middleton, Captain Gerard Ainslie Kempthorne, and Lieutenant Walter Seymour Danks.

The following officers of the Royal Army Medical Corps previously stated to be missing have since reported themselves:—Major F. S. Irvine and Captain P. Dwyer.

The following are unofficially reported prisoners of war:—Major W. B. Fry, Major J. C. Furness, Captain W. K. Beaman, Captain Wright Mitchell, and Captain H. M. J. Perry.

The following officers previously reported missing are now unofficially reported prisoners of war:—Major P. H. Collingwood, Captain P. C. T. Davy, Captain W. Egan, Captain J. P. Lynch, Captain H. E. Priestley, Captain A. A. Sutcliff, Captain A. C. Vidal, Lieutenant P. P. Butler, Lieutenant S. M. Hattersley, Lieutenant J. L. Lauder, and Lieutenant L. M. Routh.

We are very glad to state that Captain A. S. Williams, R.A.M.C., who was reported killed last week, is now unofficially reported safe, but a prisoner of war.

The three cruisers which were torpedoed on Sept. 22nd carried, according to the latest Navy List, seven surgeons, and good news is announced of five. In the *Cressy* Staff-Surgeon Edward C. Sawdy, and in the *Hogue* Staff-Surgeon P. T. Nicholls and Surgeon (R.N.V.R.) Leonard Irvine are stated to be among the saved, while it is reported that Mr. Gerald Martin, who was serving as a temporary assistant in the *Cressy*, has been rescued. In the *Aboukir* Fleet-Surgeon O. Rees has been saved. The following are presumed dead:—Surgeon H. J. Hopps in the *Aboukir* and Surgeon A. E. Turnbull (R.N.V.R.) in the *Cressy*.

MOTOR-CARS FOR WAR SERVICES.

The motor-cars of medical men in active practice are naturally immune from war service. But many of our readers are receiving inquiries as to the present and future need for motor conveyances in Red Cross work at home and at the front, and in the distribution and relief of refugees of war. For their information we quote from a circular which has been sent to us by the Automobile Association and Motor Union. This states that although over 19,000 members of the association have volunteered their cars and motor cycles for war services, difficulty is still being experienced in keeping pace with the requirements of the authorities and organisations working in various parts of the country. To facilitate the supply and distribution of cars called for the secretary will be grateful if members will notify which branch of volunteer work they would prefer to undertake, also the time they have available. Members may volunteer for:—

1. *Military service at home*, which involves placing cars and drivers at the disposal of the military commands, at the various war centres throughout the British Isles, for the use of staff officers. Cars are also required for foreign service, chiefly in connexion with ambulance work.

2. *Recruiting work in London and the provinces.*—Cars engaged in this work would bring in recruits from outlying districts, or convey recruiting officers to the various recruiting depôts.

3. *Red Cross work.*—This consists of conveyance of officials to various depôts, attending ports and railway stations to convey wounded, on arrival, to hospitals, and removing wounded from London to various convalescent centres. Cars with motor ambulance bodies for lying-down patients are in greatest demand, and to assist members willing to convert their cars for this work the association has a variety of designs and estimates, showing that such conversion can be accomplished for a moderate outlay. At the same time comfortable landaulette, limousine or cabriolet cars are very welcome for carrying patients able to sit up.

4. *Refugee work.*—A considerable number of cars are required for carrying officials to the various concentration camps, meeting refugees at ports and stations, and conveying them to their destination, also for removing refugees from concentration camps to temporary abodes.

Members volunteering for any of the above services will receive as much notice as possible before being called upon, and when cars are offered it will greatly assist the association if particulars are furnished. Communications should be addressed to the Secretary, A. A. and M. U., Fanum House, Whitcomb-street, Coventry-street, London, W.C.

GARMENTS FOR THE SICK AND WOUNDED.

We are asked by the British Red Cross Society to deny that this society has got a sufficient supply of garments for the sick and wounded. Reports to the contrary are absolutely incorrect. Only this week the following telegram was received from Rouen at 83, Pall Mall, the headquarters of the society,

from Sir Alfred Keogh, the society's chief commissioner in France:—

Send with utmost speed to Rouen, in addition to articles now on way, shirts, pyjamas, sheets, pillow-slips, mackintosh sheets, slippers, and socks. Send thousands of above. You cannot send too many.—KEOGH.

All articles should be addressed to the British Red Cross Society, Stores Department, 83, Pall Mall, London, S.W.

THE SOUTHERN TERRITORIAL GENERAL HOSPITALS.

We have already published a brief note upon the First Southern General Hospital, which is at Bournbrook, Birmingham—Lieutenant-Colonel F. Marsh in Command. with Major J. E. H. Sawyer and Quartermaster and Hon. Lieutenant E. C. Benison attached. The hospital has already been receiving many wounded, as well as a certain number of reservists and recruits.

Second Southern General Hospital.—This hospital was mobilised on August 5th. The new wing of the Bristol Royal Infirmary was gradually emptied of its civil patients, many of whom were taken over by other institutions, and was then prepared for the reception of soldiers. It had always been understood that the whole of the infirmary was to be turned over to the military authorities in time of war, but apparently this was a misapprehension, for the old wing of the institution is still in use for civil work, and the new Poor-law infirmary at Southmead is being made ready to receive military patients as soon as the numbers of these exceed the accommodation available at the Royal Infirmary, which amounts to about 250 beds. The wards to be opened at Southmead will contain an approximately identical number of beds. It is probable that these will be reserved for medical cases, while those now in use at the Royal Infirmary will be devoted to surgical patients. About the middle of August a few Territorials were admitted to the wards suffering from minor injuries and ailments, and on Sept. 2nd a batch of about 150 men were brought back from the Expeditionary Force serving in France. Only a few of these men were seriously wounded. They had most of them been travelling for about four days, and this, in addition to the severe strain thrown on them during the retirement from Mons, had induced such an extraordinary degree of fatigue that most of them hurried to bed and slept for the best part of 24 hours. Some were suffering from rheumatism, bronchitis, and other effects of exposure, but on the whole they looked surprisingly fit. The Bristol populace has idolised them to an embarrassing extent, so much so that the recreation ground of the infirmary, which is rather inconveniently exposed to the public gaze, has been boarded in. Already a number of the men have been discharged to their respective depôts as fit for duty. The *à la suite* officers who have been called up for service are as follows: Colonel: J. Paul Bush, C.M.G. Lieutenant-Colonels: J. Michell Clarke and G. Munro Smith. Majors: G. Parker, R. G. P. Lansdown, A. B. Prowse, and J. Swain. Captains: F. H. Edgeworth, J. O. Symes, J. M. Fortescue-Brickdale, C. F. Coombs, T. Carwardine, H. F. Mole, J. L. Firth, E. W. H. Groves, E. H. E. Stack, H. Hill, J. Taylor, and W. S. V. Stock. Registrar: F. C. Nicholls. A few days ago the Lord Mayor of Bristol was taken round by Colonel Bush. The Duke and Duchess of Beaufort have also visited the hospital. It should be added that, thanks to the munificence of Mr. R. E. Bush, a convalescent branch has been opened at his house at Bishop's Knoll, where 100 men could be accommodated.

Fourth Southern General Hospital.—During time of peace the office of this hospital is at Territorial Buildings, Millbay, Plymouth. The officer in command is Lieutenant-Colonel H. W. Webber, and Major W. C. Wilson and Quartermaster and Hon. Lieutenant H. B. Briggs are attached. On mobilisation the following physicians and surgeons form the staff. Lieutenant-Colonels: Dr. H. Davy, Mr. E. J. Domville, Dr. E. L. Fox, and Mr. J. E. Square. Majors: Dr. J. Mortimer, Mr. A. C. Roper, Mr. A. N. Davis, Mr. W. L. Woollcombe, Dr. R. L. Rutherford, Mr. R. H. Lucy, Mr. R. Coombe, and Dr. J. W. Gill. Captains: Mr. C. E. Bean, Mr. J. H. Dawe, Mr. G. F. Aldous, Mr. R. V. Solly, Mr. H. Andrew, Dr. E. G. S. Saunders, Dr. W. C. Hamilton, Dr. W. L. Pethybridge, Mr. G. J. Arnold, Dr. G. C. Sandford, Dr. T. Horton, Dr. C. D. Lindsey, Mr. B. Dyball, Dr. C. L. Lander, Mr. G. A. Roberts, Mr. E. G. Smith, Mr. G. C. S. Robinson, Mr. H. G. Pinker, and Dr. E. R. Clarke.

THE WOUNDED AT THE SECOND EASTERN GENERAL HOSPITAL (BRIGHTON).—Of the 330 wounded from the front admitted to the Second General Eastern Hospital the majority of the cases were naturally surgical. They were also the less seriously injured of the combatants, as the very badly wounded were retained at the hospitals at the port of landing. Although the men had had a long and trying journey by road, boat, and train, they arrived at Brighton in excellent condition, most of them being able to sit up in the cars awaiting them at the station to take them to the hospital. Of the surgical cases, by far the larger number were bullet wounds, and nearly all of these were caused by shrapnel, only a few by rifle or shell. In those cases in which a bullet was left in a patient, and was causing no harm, nothing was done in the way of removal, but there were a good many in whom for various reasons it was decided to undertake the removal of the bullet. Very few of the wounds had become septic, and many of the injuries were quite trivial, the men being able to be discharged for furlough in a few days. Those upon whom it was decided to operate were examined carefully by X rays, but in spite of an apparent exact localisation of the piece of lead, in two instances in which the bullet was deeply seated in the muscles of the thigh or calf, considerable difficulty was experienced in finding it—in fact, the search had to be given up and the bullet left in.

The following are a few examples of cases of bullet wounds encountered, reported in brief notes:—Shrapnel wound of lung: This man was shot through the back, the bullet entering near the angle of the scapula, penetrating the lung, but not coming out of the chest. Immediately after his injury he began to spit up blood. On admission there was a small abscess cavity over the third rib in front in which the bullet could be felt. The man said he was perfectly fit, but his temperature kept up to about 101° F., and there were signs of fluid filling about half his pleural cavity. The bullet was removed without difficulty, and the abscess drained. Blood-stained fluid was withdrawn from the pleural cavity, and he is doing well. Bullet wound of foot: Shrapnel embedded in head of middle metatarsal bone. In this case some little difficulty was experienced in finding the bullet. The upper and under surfaces of the bone were explored, with no result, but on carefully probing the bone itself the bullet was found firmly embedded in its head, and was removed with ease. Shrapnel wound of face: In this patient the bullet had penetrated one cheek and upper jaw, passed through the mouth, and out through the other upper jaw and cheek. Two foul cavities were found in the mouth, one in each bone through which the bullet had passed. Under treatment with peroxide of hydrogen lotion the patient soon improved. Bruise of knee caused by spent shell: A shell of the size of two fists struck a man in the back of the knee. No wound was caused, only slight bruising. The shell, of course, must have been nearly spent to have caused so trifling a lesion. Bullet wound of thigh; secondary hæmorrhage: This man was shot through the thigh on the inner side, the bullet passing right out. He did quite nicely till two days after admission, and about ten days after being wounded. After some slight exertion blood began to pour from the wound of exit. This was enlarged, the vessel (the anastomotica magna) sought for, found and tied, and the patient did quite well.

Of cases other than bullet wounds the following are of interest. Fracture of the larynx, surgical emphysema: This patient fell a distance of 60 feet over a cliff. When he was admitted he was found to be suffering from a fracture of the larynx with surgical emphysema all over the neck, back, chest, and abdomen, down to Poupart's ligament. He had a good deal of respiratory distress. There were no other injuries beyond a considerable bruising of the body. With rest in bed he is making good progress towards recovery.

The operations performed in the hospital have been as follows: Fourteen for the extraction of bullets (in two of these the bullet could not be found); two for removal of cartilage of the knee; two for appendicitis; three for varicose veins; one each for secondary hæmorrhage, fracture of the neck of the humerus, hydrocele of the cord, exploration of the kidney, mastoid disease, exploration of the

olecranon, hæmorrhoids, and hernia. A good many men have returned invalided with varicose veins. Those who consent to operation will be allowed to return to the front after the operation has been performed. Those who refuse, or who are considered unfit subjects for operation, are being invalided out of the service. The cases show the importance of a careful examination of recruits for varicose veins. The unwonted strain of long and tiring marches knocks up these men quite soon. As regards the medical cases, the great majority were minor affections, such as bronchitis, pleurisy, "dysentery," and "rheumatism." Of the cases sent in as dysentery none were found to be true examples of this disease. All were suffering from slight diarrhœa which got rapidly well. There were no examples of enteric fever. Rheumatism of the feet was quite common, and occurred especially in reservists. It was probably due to the prolonged strain of the feet in marching by men not accustomed to it, accentuated by the damp and wet through which many of them had to trudge for days without the opportunity of changing. The gonorrhœal element was present in some. The only fatal case among the admissions was one of chronic otitis media, acute mastoiditis, and meningitis. The man had old-standing ear trouble, which suddenly lighted up, the mastoid antrum becoming acutely inflamed. The mastoid was opened up and evacuated, and the lateral sinus exposed. This was quite healthy. The patient died a few hours after with signs of acute meningitis.

The general impression given by an examination of all the wounded was that about 30 per cent. of them were trifling cases, hardly requiring admission into hospital. They were able to be discharged directly their travelling warrants could be obtained from the War Office. Of the more serious cases, shrapnel wounds, especially of the lower extremity, comprised the majority, but with few exceptions the injuries caused were not severe, and will leave no after-effects.

THIRD LONDON (CITY OF LONDON) GENERAL HOSPITAL.—In our issue of August 29th we gave a list of the *à la suite* medical and surgical staff of this military general hospital which has been established at the Royal Victoria Patriotic Asylum, Wandsworth. The buildings are of the early Victorian period, and required considerable modification before they could be regarded in every way satisfactory for a modern military hospital. Nevertheless, under the determined energy and direction of the commanding officer, Lieutenant-Colonel H. E. Bruce Porter, and his assistants, beds were available from the first day of mobilisation, and on the tenth day 520 beds were actually made up in various parts of the building. The school itself is only suitable for 263 beds, but huts are being erected to bring the beds up to the required number. The "infirmary block" will eventually be used for officers, but at present contains the operating theatre, which was equipped and ready six days after mobilisation. The arrangement of the wards is now complete. Hopper ventilation has been installed, and the sanitary fittings—bed-pan sinks, baths, lavatories, &c.—are highly satisfactory. One passenger lift and two food lifts have been fitted up. An excellent X ray department has been arranged with the most modern appliances, not, indeed, only according to "schedule," but with apparatus capable of taking photographs with five seconds' exposure. The pathological and bacteriological laboratories are also ready. On the ground floor of the main building are a large receiving room, and the administrative offices and mess-rooms arranged round two open quadrangles; the wards are on the first and second floors. The matron is Miss Holden, who organised the Richmond Hospital at Dublin. She will have a large staff of sisters and nurses under her. A section of the hospital has been formed at the Middlesex Hospital under the charge of Lieutenant-Colonel W. Pasteur; Captain T. H. Kellock is also attached. A number of territorials have been admitted.

THE MAINTENANCE OF THE SANITARY SERVICE.—The Royal Sanitary Institute has issued a letter to the members and associates calling attention to the circular issued by the Local Government Board to local sanitary authorities with regard to the maintenance of the sanitary service of the country during the war. In reply to this letter the institute has received offers from many of the members and associates to help in carrying on the sanitary administration. These offers are being sorted up and filed for reference purposes. The council think that it may be of service to local authorities whose staffs have been depleted owing to the war to know that information is available at the institute as to qualified men and women who are able to take up temporary work in sanitary administration, and also as to those who would be willing to give some voluntary assistance in public health work. The institute will be pleased to afford any information or assistance possible to those authorities who may wish for it, if they will write to the Secretary, 90, Buckingham Palace-road, London, S.W.

FIELD SANITATION.—As a result of the collaboration between Mr. James Menzies and Dr. Myer Coplans, Beit Memorial Fellow, working at the Lister Institute, on the problem of the effective disposal of sewage in the field by means of a self-supporting system of destructive distillation, an apparatus has been devised suitable for field work the practicability of which has recently been demonstrated to military and naval representatives in a series of tests conducted on a large scale at Wimbledon Sewage Works. As an outcome the War Office has sanctioned the immediate construction of suitable apparatus capable of dealing with the needs of 12,000 men in the field. In this instance no room is left to carp at the readiness of a great State Department upon whom now rests the enormous responsibility of dealing effectually and promptly with a problem of such infinite danger and bristling with so many complexities as field sanitation.

RADIUM AND THE WAR.—The war has affected the Portsmouth Radium Fund in a remarkable manner. The order was placed with a German firm and the radium was delivered at the Radium Institute in London towards the end of July, but the test as to quality was delayed, and on August 4th war was declared between Britain and Germany. Acting upon orders, the institute declined to release the radium pending further instructions. The facts have been placed before the Home Office and also the Committee on Trade with the Enemy. Replies have been received stating that there is no objection to receiving and paying for the radium supplied by a German company so far as this transaction is concerned. With this double assurance payment has been made, a certificate having been received from the Radium Institute to the effect that the radium had been found to be of the quality required.

VACANCIES IN THE ROYAL ARMY MEDICAL CORPS, TERRITORIAL FORCE.—The secretary of the City of London Territorial Force Association writes in our correspondence columns this week that in consequence of the recent decision to raise reserve units of the Territorial Force there are vacancies for a number of medical officers in certain Royal Army Medical Corps units of the 1st London Division—viz., the 1st, 2nd, and 3rd Field Ambulances, and a Sanitary Company.

"WAR BABIES" IN BELFAST.—The executive committee of the Belfast branch of the Women's National Health Association of Ireland have decided to open a department at the Babies' Club, Divis-street, Belfast, where the wives residing in that city of soldiers and sailors now in the fighting line can, when sent from the Soldiers' and Sailors' Families Association and other charitable societies, get advice and help, provided they are really deserving cases. This "child welfare" work began on Sept. 16th, and is being carried out under the personal management of Lady Byers (president) and Mrs. Robert Campbell (secretary), of the Infantile Mortality Section of the Women's National Health Association in Belfast.

WAR VERSES.—A collection of stirring verses which all make a direct appeal at the present moment has been issued this week by Messrs. Cope and Fenwick, 8, Buckingham-street, Strand, W.C., under the title, "Lord, God of Battles: A War Anthology." This small volume is thoroughly well got up, and all profits from its sale will be given to the Prince of Wales's National Relief Fund. The price is 1*s.* net in brown paper cover, or 2*s.* net in cloth gilt binding. The verses include some of Shakespeare's noblest lines and extracts and poems on warlike subjects from the works of British writers, dead and living. Mr. A. E. Manning Foster, the compiler, has done his work judiciously.

ADDRESSES FOR REFERENCE.

In THE LANCET of August 22nd we published a list of addresses which would be found useful by our readers for reference in connexion with public organisations and other matters arising out of the war. We now supplement this with some additional and revised addresses which we have compiled from an official leaflet issued by the Local Government Board:—

Ambulance Department, Order of St. John, St. John's Gate, Clerkenwell, E.C.

Board of Agriculture and Fisheries, S.W. (Prices and supplies of home-grown foodstuffs.)

Board of Education, S.W. (Offers of voluntary personal assistance in general.)

Board of Trade, S.W. (Prices of necessaries; supplies; production; employment; prohibition of, and permission to, export goods.)

Drugs Committee, Wellington House, Buckingham Gate, S.W. (Stocks and prices of drugs and medicines.)

Development Commission, 6A, Dean's-yard, S.W. (Public Works, including works for the relief of distress.)

Government Committee on Prevention and Relief of Distress, Local Government Board, Whitehall, S.W.

Home Office, S.W. (Destitute aliens.)

Information Bureau, India Office, S.W. (Offers of voluntary personal assistance from officers retired from the Indian services or on leave from India.)

Local Government Board, London, Edinburgh, or Dublin. (Public works, including works for the relief of distress.)

Local Government Board, Whitehall, S.W. (War refugees in general.)

Prince of Wales's National Relief Fund—(*a*) Collection: Buckingham Palace, S.W.; (*b*) Applications for grants for relief of distress among families of soldiers and sailors: 3, Queen Anne's-gate, S.W.; (*c*) Applications for grants for relief of distress in other cases: Government Committee on Prevention and Relief of Distress, Local Government Board, S.W.

Queen's Work for Women Fund—(*a*) Collection: Foley House, 8, Portland-place, W.; (*b*) Administration: Central Committee on Women's Employment, Wimborne House, S.W.

Road Board, Queen Anne's Chambers, Broadway, S.W. (Public works, including works for the relief of distress.)

St. Andrews Ambulance Association, 176, West Regent-street, Glasgow.

Soldiers' and Sailors' Families Association, Headquarters, 23, Queen Anne's-gate, S.W. (Assistance to families of soldiers and sailors.)

Soldiers' and Sailors' Help Society, 122, Brompton-road, S.W. (Comforts for sick and wounded, private hospitals, voluntary aid, convalescent homes.)

Victoria League, 2, Wood-street, Westminster, S.W. (Offers of voluntary personal assistance from persons connected with the Dominions and Colonies.)

War Refugees Committee, General Buildings, Aldwych, W.C. (Subscriptions and offers of hospitality.)

RELIEF OF FRENCH FAMILIES IN LONDON.

The following are the four authorised committees working for the relief of French families in London:—

Le Comité d'Assistance aux Familles des Soldats Français, French Consulate General, 51, Bedford-square, W.C.

The French Section of the War Refugees Committee, General Building, Aldwych, W.C.

The French Benevolent Society, 41, Fitzroy-square, W.

The London Section of the French Red Cross Society (Madame Brasier de Thuy), 53, Redcliffe-gardens, S.W.

PHARMACEUTICAL SOCIETY OF GREAT BRITAIN.—The presentation of the Pereira medal by the President will take place on Wednesday next, Sept. 30th, at 3 o'clock, after which Dr. Lauriston E. Shaw, physician to Guy's Hospital, will deliver the inaugural sessional address.

LONDON (ROYAL FREE HOSPITAL) SCHOOL OF MEDICINE FOR WOMEN.—The inaugural address for the session will be delivered by Miss Frances Ivens, M.S., on Thursday next, Oct. 1st, at 4 P.M. The subject of the address will be Some of the Essential Attributes of the Ideal Practitioner. Academic dress will be worn.

THE NATIONAL INSURANCE ACT.

TO PREVENT EXCESSIVE PRESCRIBING.

THE Insurance Commissioners have issued to Insurance Committees a memorandum on the supply of drugs and appliances with the object of securing more efficient control over the expenditure upon drugs and appliances as part of medical benefit. The Commissioners are of the opinion that a considerable portion of the charges upon the drug funds could have been avoided without loss of efficiency, and even with positive advantage to insured patients, by properly directed economy in prescribing. In addition to extreme and easily recognisable cases of excessive prescribing, they call attention to those less readily detected which are due to a general habit, either on the part of individual practitioners or of the practitioners in a particular district, of prescribing in excess of what may be regarded as necessary for the health of patients. The excess is exhibited in two ways: by the giving of unnecessary prescriptions or prescribing of unnecessary quantities, and, secondly, by the prescribing of medicines in an unnecessarily costly form. The Commissioners state that the statistics before them prove either that a majority of practitioners prescribe less than their patients ought to have in the way of medicines, or that a minority are prescribing on an extravagant scale, and they prefer the second hypothesis. The sum involved is of considerable magnitude, and the Commissioners desire to represent "very strongly" to Insurance Committees and to the medical organisations coöperating with them the "imperative necessity" for taking the "fullest advantage" of provisions of the Regulations, and of doing this in all cases—that is to say, not only where a deficit in the drug funds has already arisen, but universally. The procedure to be followed is laid down in Article 40 of the present Regulations, and it is pointed out that the duty of investigating is to be performed by the Panel Committee, the actual surcharging being in the hands of the Insurance Committee after considering the Panel Committee's report, and, further, that the Panel Committee may conduct an investigation at any time, but that it is obligatory upon it to do so if the Pharmaceutical Committee presents to it a report suggesting excessive prescribing. On such an occasion the Panel Committee must investigate, and the Insurance Committee is equally obliged to consider the Panel Committee's report and to make appropriate surcharges. Initiation thus rests with the Panel or the Pharmaceutical Committee, but Insurance Committees are requested to give their earnest consideration to the whole question at a very early date, with a view to facilitating the machinery provided. Attention is called to the possibility of having the duties of checking and statistical analysis performed by a single staff under the joint control of the three committees mentioned. This, it is stated, has been tried and has proved an efficient and economical method. The Commissioners observe that some Insurance Committees have proposed to issue circulars containing general prohibitions as to the prescribing of certain articles and preparations, but this they do not advise, and they call attention to cases in which such prohibitions may involve "the exercise of a therapeutic judgment upon matters upon which the Insurance Committee is not in a position to decide."

The issue of such circulars by the Panel Committee, they point out, is not open to the same objection, and accordingly, for the convenience of Panel Committees in framing circulars of the class referred to, the Commissioners conclude their memorandum with an outline of heads under which they believe most of the articles or preparations as to which a caution is desirable may be classified, together with a note as to the form of warning appropriate in each category. The heads referred to are: 1. Foods, toilet preparations, and disinfectants. 2. Prescriptions which could be otherwise prescribed and dispensed at a lower cost and with equal efficiency. 3. Appliances not prescribed in the second schedule to the Regulations.

NATIONAL MEDICAL UNION.

The returns of the elected members of the council have been made by the respective non-panel associations, and the council is now constituted as follows:—Presidents: Professor W. Russell and Mr. G. A. Wright. Vice-Presidents: Mr. W. Coates, C.B., Mr. V. T. Greenyer, Dr. John Playfair, Dr. James Oliver, and Dr. J. Brassey Brierley. Honorary secretary: Mr. E. A. Dorrell. Honorary treasurer: Dr. G. W. B. Marsh. Elected members: Dr. H. A. Eccles, Dr. C. H. Hartt, Dr. F. Porter, Dr. Torrance Thomson, Dr. H. Oppenheimer, Dr. H. Sharman, Dr. R. H. Trotter, Dr. B. G. Morison, Dr. A. Mackenzie Hickley, Dr. C. T. T. Comber, Mr. F. Heatherley, Dr. G. H. Pinder, Dr. C. E. M. Lowe, Dr. J. Skardon Prowse, Dr. J. L. Baskin, Dr. G. D. Wilson, Dr. H. B. Greene, and Dr. G. P. Joy.

The first meeting of the council took place on Sept. 5th, when Mr. Greenyer was elected chairman of council and Dr. Marsh honorary treasurer. The following committees were appointed—namely, executive, organisation, finance, Parliamentary, and press; and standing orders for the council and committees were framed and agreed to.

The honorary secretary was instructed to write to the Secretary of the War Office that the council of the National Medical Union was prepared to submit a list of those of its members willing to place their services in various capacities in their districts at the disposal of the War Office. This offer has been acknowledged and accepted by the Director-General of the Army Medical Service.

Dr. A. C. Farquharson has been unanimously adopted as the prospective candidate in the Liberal interest for the North Leeds Parliamentary division.

LONDON HOSPITAL MEDICAL SCHOOL.—We are asked to state that the annual old students' dinner has been cancelled on account of the war.

UNIVERSITY COLLEGE HOSPITAL MEDICAL SCHOOL.—The next term will begin on Thursday, Oct. 1st, but owing to the war the annual dinner of past and present students will not be held this year.

ST. BARTHOLOMEW'S HOSPITAL MEDICAL SCHOOL.—It has been decided to cancel the old students' dinner which was arranged for Oct. 1st, but the Medical School will reopen as usual for the winter session on that day.

ENTERIC FEVER AT ST. BURYAN (CORNWALL).—It is stated that about 50 cases of enteric fever have been notified at St. Buryan, six of which have terminated fatally. There is reason to believe that several visitors to St. Buryan have contracted the disease and are being treated at their own homes.

Appointments.

Successful applicants for vacancies, Secretaries of Public Institutions, and others possessing information suitable for this column, are invited to forward to THE LANCET Office, directed to the Sub-Editor, not later than 9 o'clock on the Thursday morning of each week, such information for gratuitous publication.

ANDERSON, W., M.B., C.M. Glasg., D.P.H., has been appointed Medical Officer and Medical Officer at the Isolation Hospital by the Billericay Rural District Council, Essex.

DUNDAS, GRACE G., L.R.C.P. & S. Edin., F.R.C.S. Irel., D.P.H., has been appointed Medical Officer of Health of Ramsgate and School Medical Officer during her husband's absence on active service with the Territorials.

PRATT, E. F., M.B., B.S. Durh., has been appointed Certifying Surgeon under the Factory and Workshop Acts for the East Newcastle District of the county of Northumberland.

OSS, J. M., M.B., Ch.B. Edin., D.P.H., has been appointed Medical Inspector of School Children to the Wigtownshire Education Committee.

RUXTON, W. L., M.B., C.M. Aberd., has been appointed Certifying Surgeon under the Factory and Workshop Acts for the West Newcastle District of the county of Northumberland.

THORP, EUSTACE, L.R.C.P. & S. Edin., L.F.P.S. Glasg., D.P.H. Belf., has been appointed Assistant School Medical Inspector to the North Riding of Yorkshire Education Committee.

Vacancies.

For further information regarding each vacancy reference should be made to the advertisement (see Index).

ASHTON-UNDER-LYNE DISTRICT INFIRMARY AND CHILDREN'S HOSPITAL.—Senior House Surgeon. Salary £120 per annum, with board, residence, and laundry.

BANBURY, HORTON INFIRMARY.—House Surgeon. Salary £120 per annum, with board and residence.

BARNSTAPLE, NORTH DEVON INFIRMARY.—House Surgeon. Salary £100 per annum, with board, residence, and washing.

BELGRAVE HOSPITAL FOR CHILDREN, Clapham-road, S.W.—House Surgeon and House Physician for six months. Salary at rate of £75 per annum each, with board, residence, and washing. Also Assistant Physician.

BERMONDSEY PARISH.—Medical Officer. Salary £450 per annum.

BIRKENHEAD BOROUGH HOSPITAL.—Junior House Surgeon. Salary £100 per annum, with board and laundry.

BIRMINGHAM CITY ASYLUM, Rubery-hill.—Junior Assistant Medical Officer. Salary £200 per annum, with apartments, board, laundry, &c.

BIRMINGHAM CITY FEVER HOSPITAL, Little Bromwich.—Assistant Medical Officer. Salary £200 per annum, with board, residence, and laundry.

BIRMINGHAM AND MIDLAND HOSPITAL FOR SKIN AND URINARY DISEASES.—Clinical Assistant for three months, afternoon attendance only. Salary at rate of 52 guineas per annum.

BIRMINGHAM UNION.—DUDLEY-ROAD INFIRMARY: First Assistant Medical Officer, Second Assistant Medical Officer, and Fourth Assistant Medical Officer. Salaries at rate of £225, £180, and £160 per annum respectively. ERDINGTON INFIRMARY AND COTTAGE HOMES: Assistant Medical Officer. Salary at rate of £200 per annum. SELLY OAK INFIRMARY: Assistant Medical Officer. Salary at rate of £180 per annum. Apartments, rations, laundry, and attendance in each case.

BLACKBURN INFECTIOUS DISEASES HOSPITAL.—Temporary Resident Medical Officer. Salary £200 per annum, with board and residence.

BLACKPOOL, VICTORIA HOSPITAL.—House Surgeon. Salary £160 per annum, with residence, board, and laundry.

BOOTLE COUNTY BOROUGH HOSPITAL FOR INFECTIOUS DISEASES.—Resident Medical Officer, unmarried. Salary £150 per annum, with board, washing, and apartments.

BOURNEMOUTH, ROYAL VICTORIA AND WEST HANTS HOSPITAL.—House Surgeon, unmarried, for six months. Salary £100 per annum and extras, with board, lodging and washing.

BRADFORD ROYAL EYE AND EAR HOSPITAL.—House Surgeon. Salary £200 per annum.

BRADFORD ROYAL INFIRMARY.—House Surgeon, unmarried. Salary £100 per annum, with board, residence, and washing. Also Resident Surgical Officer, unmarried. Salary £150 per annum, with board and residence.

BRISTOL GENERAL HOSPITAL.—First House Physician, Second House Physician, House Surgeon, and Casualty House Surgeon for six months. Salary at rate of £120 per annum, with board, residence, &c.

BURNLEY, VICTORIA HOSPITAL.—Second House Surgeon. Salary £135 per annum, with residence, board, and washing.

BURY ST. EDMUNDS, WEST SUFFOLK GENERAL HOSPITAL.—Resident Medical Officer, unmarried. Salary £120 per annum, with board, lodging, and laundry.

BUXTON, DERBYSHIRE, DEVONSHIRE HOSPITAL.—Assistant House Physician for six months. Salary £100 per annum, with apartments, board, and laundry.

CANTERBURY, KENT COUNTY ASYLUM, Chartham.—Junior Assistant Third Medical Officer, unmarried. Salary £250 per annum, with quarters, board, washing, &c.

CARDIFF AND COUNTY PUBLIC HEALTH LABORATORY.—Bacteriologist. Salary £200 per annum.

CARDIFF CITY MENTAL HOSPITAL, Whitchurch, near Cardiff.—Second Assistant Medical Officer, unmarried. Salary £250 per annum, and all found.

CITY OF LONDON HOSPITAL FOR DISEASES OF THE CHEST, Victoria Park, E.—House Physician for six months. Salary at rate of £75 per annum, with board, residence, and washing.

DERBY COUNTY ASYLUM, Mickleover.—Junior Assistant Medical Officer. Salary £200 per annum, with board, lodging, and washing.

DERBY COUNTY BOROUGH EDUCATION COMMITTEE.—Temporary School Medical Officer. Salary £300 per annum.

DERBY, DERBYSHIRE HOSPITAL FOR SICK CHILDREN.—Female Resident Medical Officer. Salary £100 per annum.

DUNDEE ROYAL INFIRMARY.—Three Resident Medical Officers. Salary at rate of £40 per annum, with board, lodging, and laundry.

DURHAM COUNTY COUNCIL.—Assistant Tuberculosis Medical Officer. Salary £350 per annum. Also Female Assistant School Medical Officer. Salary £300 per annum.

GREAT YARMOUTH COUNTY BOROUGH.—Assistant Medical Officer of Health. Salary £250 per annum.

GREAT YARMOUTH HOSPITAL.—House Surgeon, unmarried. Salary £140 per annum, with board, lodging, and washing.

HALIFAX ROYAL INFIRMARY.—Second and Third House Surgeons, both unmarried. Salaries £120 and £100 per annum respectively, with residence, board, and washing.

HAMPSHIRE COUNTY COUNCIL.—Three Assistant County Medical Officers of Health. Salary £300 per annum.

HASTINGS, EAST SUSSEX HOSPITAL.—House Surgeon. Salary at rate of £100 per annum, with residence, board, and washing.

HOSPITAL FOR SICK CHILDREN, Great Ormond-street, London, W.C.—Assistant Casualty Medical Officer, unmarried, for six months. Salary £30 per annum, with board, residence, and washing allowance.

HULL ROYAL INFIRMARY.—Senior House Surgeon, unmarried. Salary £150 per annum, with board and apartments. Also Assistant House Surgeon. Salary at rate of £100 per annum, with board and lodging. Also Honorary Surgeon.

HULL, VICTORIA CHILDREN'S HOSPITAL, Park-street.—Female Resident House Surgeon. Salary £60 per annum, with board and laundry.

JOHANNESBURG, SOUTH AFRICAN INSTITUTE FOR MEDICAL RESEARCH.—Superintendent of Routine Division. Salary £700 per annum.

KING EDWARD MEMORIAL HOSPITAL, Ealing, W.—Resident Medical Officer for six months. Salary at rate of £80 per annum, with board, residence, and laundry.

KING'S LYNN, WEST NORFOLK AND LYNN HOSPITAL.—House Surgeon. Salary £150 per annum, with residence, board, and washing.

LEEDS GENERAL INFIRMARY.—Assistant Clinical Pathologist. Salary £150 per annum and luncheon.

LEICESTER ROYAL INFIRMARY.—Resident House Surgeons and Assistant House Surgeons.

LEICESTERSHIRE AND RUTLAND MENTAL HOSPITAL, Narborough, near Leicester.—Junior Medical Officer. Salary £200 per annum, with board, lodging, and washing.

LIVERPOOL, BROWNLOW HILL INSTITUTION.—Oculist. Salary £50 per annum.

LIVERPOOL ROYAL INFIRMARY.—Three House Physicians, one House Surgeon, one Special Departments. Salary at rate of £60 per annum.

LOWESTOFT AND NORTH SUFFOLK HOSPITAL.—Female House Surgeon, unmarried. Salary at rate of £120 per annum, with board, residence, and laundry.

LUTON, BOROUGH OF.—Acting Medical Officer of Health, Medical Superintendent of the Council's Infectious Diseases Hospital, Schools Medical Officer, and Police Surgeon. Salary at rate of £500 per annum.

MAIDSTONE, KENT COUNTY ASYLUM.—Second Assistant Medical Officer, unmarried. Salary £280 per annum, with board, quarters, attendance, washing, &c.

MANCHESTER, COUNTY ASYLUM, Prestwich.—Assistant Medical Officer, unmarried. Salary £250 per annum, with board, apartments, attendance, and washing.

MANCHESTER, HULME DISPENSARY, Dale-street, Stretford-road.—House Surgeon. Salary £180 per annum, with apartments, attendance, coal, and gas.

MANCHESTER, MONSALL FEVER HOSPITAL.—Third and Fourth Medical Assistants. Salary £150 per annum each, with board, lodgings, and washing.

MANCHESTER NORTHERN HOSPITAL FOR WOMEN AND CHILDREN, Parkplace, Cheetham Hill-road.—House Surgeon. Salary £120 per annum, with apartments and board.

MANCHESTER, ST. MARY'S HOSPITALS FOR WOMEN AND CHILDREN.—House Surgeon for Children's Department. Also House Surgeon for Obstetrical and Gynæcological Departments for three or six months. Salary at rate of £70 per annum, with board and residence.

MERSTHAM, SURREY COUNTY ASYLUM, Netherne.—Assistant Medical Officer, unmarried. Salary £230 per annum, with board, lodging, and laundry.

MERTHYR TYDFIL COUNTY BOROUGH.—Assistant School Medical Officer. Salary £300 per annum.

METROPOLITAN ASYLUMS BOARD INFECTIOUS HOSPITALS SERVICE.—Assistant Medical Officers, unmarried. Salary £250 per annum, with board, lodging, and washing.

METROPOLITAN HOSPITAL, Kingsland-road, N.E.—Assistant House Surgeon. Salary at rate of £40 per annum, with board and washing.

MIDDLESBROUGH, NORTH RIDING INFIRMARY.—Senior House Surgeon for six months. Salary at rate of £100 per annum, with board, apartments, and laundry.

NATIONAL HOSPITAL FOR THE PARALYSED AND EPILEPTIC, Queen-square, Bloomsbury, W.C.—Senior House Physician. Salary £50 per annum, with board and residence.

NEWPORT (MON.). ROYAL GWENT HOSPITAL.—Resident Medical Officer. Salary for first six months at rate of £100 per annum, second six months £125, and third six months £150, with board, residence, and laundry.

NORTHAMPTONSHIRE COUNTY COUNCIL EDUCATION COMMITTEE.—Temporary Assistant School Medical Officer. Salary £25 per month.

NORWICH, CITY OF.—Assistant Medical Officer of Health. Salary £240 per annum, with rooms, board, &c.

NORWICH, NORFOLK AND NORWICH HOSPITAL.—House Physician. Salary £100 per annum. Also Casualty House Surgeon for six months. Salary at rate of £100 per annum. Board, lodging, and washing in each case.

NOTTINGHAM CITY ASYLUM.—Junior Assistant Medical Officer, unmarried. Salary £200 per annum, with board, apartments, and laundry.

NOTTINGHAM GENERAL DISPENSARY.—Assistant Resident Surgeon, unmarried. Salary £180 per annum, with apartments (not board), attendance, light, and fuel.

NOTTINGHAM GENERAL HOSPITAL.—Assistant House Physician and Assistant House Surgeon for six months. Salary at rate of £100 per annum each, with board, residence, and laundry.

OTAGO UNIVERSITY, NEW ZEALAND.—Professor of Clinical Pathology. Salary £600 per annum.

OXFORD EYE HOSPITAL.—House Surgeon. Salary at rate of £100 per annum, with board, residence, and washing.

QUEEN'S HOSPITAL FOR CHILDREN, Hackney-road, Bethnal Green, E.—House Surgeon for six months. Salary £80 per annum, with board, residence, and washing.

ROTHERHAM HOSPITAL.—Assistant House Surgeon. Salary £110 per annum, with board, lodging, and washing.

ROYAL DENTAL HOSPITAL, Leicester-square, W.C.—House Anæsthetist three afternoons a week.

ROYAL EAR HOSPITAL, Dean-street, Soho, W.—Honorary Assistant Anæsthetist on Tuesday afternoons and Thursday mornings.

ROYAL LONDON OPHTHALMIC HOSPITAL, City-road, E.C.—Senior House Surgeon. Salary at rate of £100 per annum, with board and residence.

ROYAL WATERLOO HOSPITAL FOR CHILDREN AND WOMEN, S.E.—Junior Resident Medical Officer. Salary at rate of £70 per annum, with board and washing.

ST. GEORGE'S HOSPITAL, S.W.—Surgeon and Assistant Surgeon.

ST. MARK'S HOSPITAL FOR CANCER, FISTULA, AND OTHER DISEASES OF THE RECTUM, City-road, E.C.—House Surgeon. Salary £100 per annum, with board, lodging, and washing.

ST. MARYLEBONE INFIRMARY, Rackham-street, Notting Hill, W.—Temporary Second Assistant Medical Officer, unmarried. Salary £200 per annum, with apartments, rations, and washing. Also Third Assistant Medical Officer, unmarried, for six months. Salary at rate of £180 per annum, with apartments, rations, and washing.

ST. MARY'S HOSPITAL FOR WOMEN AND CHILDREN, Plaistow, E.—Assistant Resident Medical Officer. Salary at rate of £100 per annum, with board, residence, and laundry.

SALFORD ROYAL HOSPITAL.—Resident Surgical Officer and Casualty House Surgeon for six months. Salary at rate of £120 and £100 per annum respectively, with board and residence.

SALISBURY (GENERAL) INFIRMARY.—Assistant House Surgeon, unmarried. Salary £75 per annum, with apartments, board, lodging, and washing.

SAMARITAN FREE HOSPITAL FOR WOMEN, Marylebone-road, N.W.—Anæsthetist. Salary £15 per annum.

SHEFFIELD CHILDREN'S HOSPITAL.—House Surgeon. Salary £150 per annum, with board and residence. Also House Surgeon at East End Hospital (Out-patient Department only). Salary £120 per annum, with board and residence.

SHOREDITCH INFIRMARY, Hoxton-street, N.—Junior Assistant Medical Officer for six months. Salary £150 per annum, with board, apartments, and washing.

SOUTHAMPTON FREE EYE HOSPITAL.—House Surgeon. Salary £100 per annum, with board, lodging, and laundry.

SOUTHAMPTON, ROYAL SOUTH HANTS AND SOUTHAMPTON HOSPITAL. House Physician. Salary £120 per annum, with rooms, board, and washing.

SOUTH SHIELDS, INGHAM INFIRMARY AND SOUTH SHIELDS AND WESTOE DISPENSARY.—Junior House Surgeon. Salary £115 per annum, with residence, board, and washing.

SUNDERLAND ROYAL INFIRMARY.—House Physician. Salary £120 per annum, with board, residence, and laundry.

SWANSEA GENERAL AND EYE HOSPITAL.—House Surgeon. Salary £125 per annum, with board, washing, and attendance.

TRURO, ROYAL CORNWALL INFIRMARY.—House Surgeon, unmarried. Salary £100 per annum, with rooms, board, and washing.

WALSALL AND DISTRICT HOSPITAL.—Senior House Surgeon. Salary £150 per annum, with board, residence, and laundry.

WEST BROMWICH AND DISTRICT HOSPITAL.—Assistant Resident House Surgeon and Anæsthetist, unmarried. Salary £100 per annum, with board, residence, and washing.

WEST HAM AND EASTERN GENERAL HOSPITAL, Stratford, E.—Senior House Physician. Salary £120 per annum. Also Junior House Physician and Junior House Surgeon. Salary £100 per annum. Board, residence, and washing provided in each case.

WEST HAM UNION INFIRMARY, Whipps Cross-road, Leytonstone, N.E.—Third Assistant Resident Medical Officer. Also Female Fourth Assistant Medical Officer. Salary £180 and £160 per annum respectively, with usual residential allowances.

WESTMINSTER UNION INFIRMARY, Colindale Avenue, Hendon, N.W.—Assistant Medical Officer. Salary £160 per annum, with board, residence, and washing.

WESTMINSTER UNION INFIRMARY, Fulham-road, S.W.—Second Assistant Medical Officer. Salary £160 per annum, with board, residence, and washing. Also Third Assistant Medical Officer. Salary £140 per annum, with board, residence, and washing.

WINSLEY SANATORIUM FOR CONSUMPTION, near Bath.—Senior Resident Medical Officer, unmarried. Salary £300 per annum, with board, residence, and laundry. Also Assistant Resident Medical Officer, unmarried. Salary £150 per annum, with board, residence, and laundry.

WOLVERHAMPTON AND STAFFORDSHIRE GENERAL HOSPITAL.—House Surgeon and Resident Medical Officer for six months. Salary each at rate of £125 per annum, with board, rooms, and laundry. Also Pathologist. Salary £200 per annum.

THE Chief Inspector of Factories, Home Office, London, S.W., gives notice of vacancies for Certifying Surgeons under the Factory and Workshop Acts at Ardagh, in the county of Limerick; and at Patterdale, in the county of Westmorland.

Births, Marriages, and Deaths.

BIRTHS.

BRAY.—On Sept. 12th, at the Vicarage, Fordingbridge, the wife of Lieutenant-Colonel H. A. Bray, R.A.M.C., attached Egyptian Army, of a daughter.

COHEN.—On Sept. 14th, at Kingston, Sidmouth, S. Devon, the wife of Bertram Cohen, M.B., B.S., a daughter.

MARTYN.—On Sept. 18th, at High-street, Eton, Bucks, the wife of Henry L. Martyn, M.B., F.R.C.S., attached to R.A.M.C. 12th General Hospital, Expeditionary Force, of a daughter.

PEARCE.—On Sept. 16th, at Enfield House, Bury Old-road, Manchester, the wife of Dr. P. Leslie Pearce, of a daughter.

ROGERS.—On Sept. 15th, at Castledown-road, W. Kensington, the wife of David de Sola Rogers, L.D.S. R.C.S. Eng., of Buenos Aires, of a daughter.

MARRIAGES.

COOMBS—HUDSON.—On Sept. 16th, at St. Andrew's Church, West Kensington, London, Harold Martin McCulloch Coombs, M.B., R.A.M.C. (T.), Eastern Mounted Brigade Field Ambulance, to Ismay, youngest daughter of Sir William Brereton Hudson, K.C.I.E.

EDWARDS—MAUGHAN.—On Sept. 19th, at St. Mary the Virgin, Putney, Roger Bellis Edwards, M.B., B.S., to Marjory, younger daughter of the late Henry G. R. Maughan and Mrs. Maughan, of Putney Hill.

DEATHS.

GRESSWELL.—On Sept. 16th, at Kelsey House, Louth, Lincs, after a short illness, Dr. George Gresswell, M.A. Oxon.

SARGENT.—On Sept. 20th, at Southend, G. E. H. Sargent, L.M.S.S.A., of 300, Commercial-road, London, E., aged 56. Cornish papers, please copy.

STEELE.—On Sept. 20th, at Clifton Villa, Richmond Hill, Clifton, Bristol, Charles Steele, M.D., F.R.C.S., aged 76 years.

N.B.—A fee of 5s. is charged for the insertion of Notices of Births, Marriages, and Deaths.

BOOKS, ETC., RECEIVED.

ALLEN, GEORGE, AND UNWIN, London.

A Text-book of Insanity and other Mental Diseases. By Charles Arthur Mercier, M.D., F.R.C.P., F.R.C.S. Second edition. Entirely rewritten. Price 7s. 6d. net.

BLACK, ADAM AND CHARLES, London.

Tuberculosis of the Bones and Joints in Children. By John Fraser, M.D., F.R.C.S. Edin., Ch.M., Assistant Surgeon, Royal Hospital for Sick Children, Edinburgh. 51 plates and 164 figures. Price 15s. net.

BUTTERWORTH AND CO. AND SHAW AND SONS, London.

The Public Health Acts Annotated with Appendices (Lumley's Public Health), containing the Various Incorporated Statutes and Orders of the Local Government Board. Eighth edition. In two volumes. By Alexander Macmorran, M.A., and Joshua Scholefield, assisted by Gerard R. Hill, M.A., and Kenneth M. Macmorran, M.A., LL.B.

CASSELL AND CO., London.

Elements of Surgical Diagnosis. By Sir Alfred Pearce Gould, K.C.V.O., M.S. Lond., F.R.C.S. Eng. Fourth edition, revised and enlarged by the Author, with the assistance of Eric Pearce Gould, M.A., M.Ch. Oxon., F.R.C.S. Eng. Price 10s. 6d. net.

CHURCHILL, J. AND A., London.

A Manual of Minor Surgery and Bandaging (Heath, Pollard), for the Use of House Surgeons, Dressers, and Junior Practitioners. Fifteenth edition. By H. Moriston Davies, M.D., M.C. Cantab., F.R.C.S. Price 7s. 6d. net.

Transactions of the Ophthalmological Society of the United Kingdom. Vol. XXXIV. Session 1914. With List of Officers, Members, &c. Price 12s. 6d. net.

A Manual of Dental Anatomy, Human and Comparative. By Charles S. Tomes, LL.D., F.R.S., F.R.C.S. Seventh edition. Edited by H. W. Marett Tims, M.A. Cantab., M.D., M.Ch. Edin., F.L.S., F.Z.S., and A. Hopewell-Smith, L.R.C.P., M.R.C.S., L.D.S. Eng. Price 15s. net.

Remedial Exercises in Schools and School Clinics. By R. C. Elmslie, M.S., F.R.C.S. Price 1s. net.

FALCONER, JOHN, Upper Sackville-street, Dublin.

Transactions of the Royal Academy of Medicine in Ireland. Vol. XXXII. Edited by J. Alfred Scott, M.A., M.D., F.R.C.S.I.

FROWDE, HENRY, AND HODDER AND STOUGHTON, London.

British Red Cross Society Note-book, with Diagrams for Use during Attendance at Red Cross Courses of First Aid. Price 1s. net.

HODGE, WILLIAM, AND CO., Edinburgh and Glasgow.

The Mental Deficiency and Lunacy (Scotland) Act, 1913 (3 and 4 Geo. V., Cap. 38), with Introduction, Notes, and Appendices. By J. Edward Graham, K.C. Price 12s. 6d. net.

JOHNSTON, W. AND A. K., Edinburgh and London.

Castration (including Cryptorchids and Caponing) and Ovariotomy. By Frederick T. G. Hobday, F.R.C.V.S., F.R.S.E. Second edition.

Notes, Short Comments, and Answers to Correspondents.

During the continuance of the war the size of THE LANCET *will be curtailed. This has been necessitated primarily by the difficulty in ensuring an adequate supply of paper, but the contributions of most of our correspondents on the continent have failed, and will fail, to reach us. Many special features of* THE LANCET *have had to be sacrificed for the time, and while we ask the indulgence of our readers for this, we promise to restore them at the earliest possible opportunity.*

"HOSPITAL EXPERTS."

IN the United States, and to some degree, too, in Canada, the opening up of unoccupied lands and the tremendously rapid growth of towns have operated to compel the man on the spot to be a jack-of-all-trades. In the medical profession, for instance, the doctors in most western towns, or cities as they are locally termed, are all essentially general practitioners; a town must grow to some importance before it can look to have its first specialist, probably an ophthalmologist. Gradually certain general practitioners become part-time specialists, and by-and-by the city develops a university, a medical faculty makes its appearance in due course, and doctors who practise exclusively some special branch. Specialists are required during this growing time, but the patient has to go and seek them. The developing town must also have a hospital, and unless it is content to endure humiliation the hospital must be larger and "more up to date" than that of any of its neighbours. With keen enthusiasm a local architect is engaged to plan a building having an imposing appearance, the necessary capacity, and containing everything that doctors need. These plans are then submitted to a "hospital specialist" in New York or Chicago to be "experted." The expert finds, perhaps, that there are insufficient anæsthetising rooms, that the lifts are too small to receive an ambulance of the pattern he recommends as most completely up to date, that the door of the ward diet kitchen is in the wrong place and involves two steps more than is necessary for each nurse serving out meals to the patients, which means for 20 patients with an average of four meals daily 160 extra unnecessary steps—wasted energy, less work done for the money, and greater cost of service. The expert may recommend a better pattern and a more convenient lavatory basin for installation throughout the hospital, a better system of signals, or perhaps some newer scheme to make it less troublesome to patients to pay their bills, such, for instance, as a pneumatic carrier in each room to take down the patient's $100 bill each week and to return the change. (It must be remembered that in America payment for medical or surgical treatment in a hospital is the rule and not the exception.) The amended plans come back, a fee of perhaps 1 or 2 per cent. on the cost of the hospital is paid, and the city has the proud satisfaction of possessing a hospital really worthy of it and one to be talked of with general appreciation. The expert will also on request give instructions as to how money should be raised, with what committees, and by what arguments, also how that money should be spent; how, where, and what furniture and equipment (at 5 per cent. commission) should be bought; and how the accounts should be kept, so there shall be absolutely no waste anywhere. Thus it will be known precisely whether enough is being charged for the operating-room, whether the X ray operator's salary can be raised, whether there is any profit on the Turkish baths, and by how much exactly the 120 steps saved have reduced the cost or helped administration in a year. The hospital expert has very likely been evolved from a hospital superintendent in a small hospital who had to give anæsthetics and look after the few non-paying cases. Then he got appointed to a hospital of 150 to 200 beds, where he engaged in none but administrative duties. Next he got a chance to see other hospitals, and perhaps his own hospital had to be rebuilt. His advice on that, turning out well, he may have set up for himself. Sometimes the expert is a nurse, who, as a very capable matron, has shown great power of management. This is a less satisfactory case, for the expert who is not a qualified medical man has great difficulty in grasping the medical point of view. Perhaps the best organisation is that of a physician and architect working together. Money to support these experts is available because hundreds of hospitals have been going up in the United States in the last few years. They are

very good and well arranged, and the experts are justly pleased with them. Indeed, it is confidently thought there that not much is to be learnt in the matter from Europe.

A QUOTATION IN SEARCH OF A FATHER.

To the Editor of THE LANCET.

SIR,—The couplet quoted by your correspondent, Mr. E. A. Eade, recalls youthful days of labour in "Upper School." But though I am unable to tell him either the author of the lines or where they are to be found, he may like to know that the delightful derivation is to be found in that mine of information, interesting if not always accurate, the Etymologiæ of Isidorus Hispalensis. In Book XVII., Chapter 10, Section 18 (according to the latest Oxford edition), Isidore says of fungi that they are so-called from φώς, because of their use as tinder. He proceeds, "Alii dicunt fungos vocatos quod sint ex eorum genere quidam interemptorii; unde et defuncti."

I am, Sir, yours faithfully,

Sept. 28th, 1914. H. P. CHOLMELEY.

THE JUKES.

THE following advertisement appeared in the *Times* of Sept. 12th, 1914:—

WANTED, INFORMATION LEADING to BIOGRAPHY and PICTURE of ROBERT L. DUGDALE, English-American sociologist; studied "Jukes" in New York, 1870-77. One pound reward.—Eugenics Record Office, Cold Spring Harbour, New York, U.S.A.

The last reference we published in THE LANCET to the Jukes family was in the issue of Oct. 7th, 1911, p. 1023, an annotation entitled "Justice for the Jukes." "Juke" was the pseudonym given by Mr. Robert L. Dugdale to a family whose environment and lineage he investigated through seven generations, beginning with "Max," who was born between 1720 and 1740, and lived the life of a backwoodsman in New York State. The footnote to our annotation was as follows:—"The Jukes: a Study in Crime, Pauperism, Disease, and Heredity. By Robert L. Dugdale. With an introduction by Franklin H. Giddings. Fourth edition. London and New York: G. P. Putnam's Sons. 1910. Pp. 120. Price 5*s.* net."

THE LIGHTER SIDE OF A HOSPITAL SHIP.

WE have received from the editors a copy of the first issue, dated Sept. 15th, of "Drina Dippings," a lively little periodical printed and published on board H.M. Hospital Ship *Drina*. In a magazine printed solely for the amusement of fellow officers the personal note is naturally uppermost, but the point of most of the good-natured sallies is not difficult to catch. For instance, we read on p. 7: "It has been reported that Temporary Surgeon H—— has submitted himself to the attentions of the hair-dresser. The Official Press Bureau will not take any responsibility for the accuracy of this rumour, but permits its publication pending further observations." Again, in the advertisement columns, which are equally diverting, readers are advised not to miss the same officer's "subtrochanteric trousers—a speciality." We hope that "Drina Dippings," in its appropriate blue cover and with its sly motto, "Multa cum trepiditate," will continue to enliven the existence of the brave company on board H.M.H.S. *Drina*.

THE WISDOM OF ANIMALS.

WE are in the habit of attributing human wisdom to quadrupeds, and sometimes quite surprising stories are told of cats, dogs, tigers, wolves, and monkeys. That many of these stories are entirely untrue is well known, and it used to be a form of club humour to ply editors of newspapers with zoological yarns, wagers depending upon the editors' ability to swallow—i.e., print—the episodes. We have all heard of the cat that fished for trout in the water, though cats never get themselves wet if they can avoid it. Dogs, as the friends of man, will do almost anything human according to their chroniclers, and Austrian students are said to be in the habit of intoxicating their dogs with strong drink and then urging them—despite the fact that an inebriated dog usually lies down in stupor—to bite unpopular characters. Ladies in Austria have had their cheeks torn by drunken dogs, and are known to have thus suffered by a large circle of sympathising friends. At least, that is a story which we have been asked to publish in THE LANCET, and we do so with such extreme reservation that no humorist—if we are dealing with such—ought to receive money on the result. It is said of wolves that they hunt down and tear to pieces any member of the pack that has led them on a false scent, but the explanation here is that wolves will eat any isolated wolf in their front, and that the close formation of the pack is a witness to the wolf's fear of being ahead of the rest. Similar common-sense explanations can be found of many surprising feats of inductive genius among animals and birds. Ducks, in the West Fleet, a sheet of water behind the Chesil Bank, have been described as trained to swim out and to tempt widgeon, teal, and other wild fowl into a funnel leading to destruction. The truth is the ducks have not been trained at all, but do not fear the "decoy" which has never harmed them and within which their food lies. All animals, whether quadrupeds or birds, that feed in herds are said to place sentries on the outskirts of their party. It is, however, obvious that wherever there is a collection of feeding or couchant animals there will be members of the group at the corners who, by very position, become sentinels.

KILOMETRES AND MILES.

To the Editor of THE LANCET.

SIR,—The simplest way to convert kilometres into miles is divide by 2, divide the result by 4 and add the two results. Examples: 100 divided by 2 = 50; ¼ of 50 is 12·5: result, 62·5. 500 k. divided by 2 = 250; 250 divided by 4 = 62·5 + 250 = 312·5.

To convert miles into kilometres multiply by 8 and divide result by 5.—I am, Sir, yours faithfully,

ERNEST LEOPOLD WALFORD.

Junior Constitutional Club, Piccadilly, Sept. 19th, 1914.

MISRI AND SUPARI.

Mr. S. M. Mitra, author of "Anglo-Indian Studies," writes to the *Daily Express* to suggest that the following comforts would be greatly valued by the Indian soldiers who are going to fight for the Empire:—

Sugar candy (if possible, the Indian Misri).
Candied coconut.
Areca nut (Supari), cut in thin slices.
Cinnamon and cloves.
Coloured handkerchiefs, extra large size.

Mr. Mitra wonders whether any enterprising firm will make up small parcels or boxes containing the things described, so that they may be easily purchased and despatched to the Indian Expeditionary Force. Misri in Hindustani means sugar candy, and also means "Egyptian," Misr signifying Egypt. Supárí is "betel-nut," the nut of the Areca catechu, and is a masticatory. Dr. Hale White, in his "Materia Medica," says: "Throughout the whole of India all classes of natives indulge in the habit of chewing betel leaves. White catechu and areca nut or betel nut, mixed with various spices and aromatics, are wrapped up in betel leaves which have been previously smeared with a little chunan or shell lime, and little masses of this mixture are chewed. This habit largely increases the amount of saliva."

SERBIA.

WE observe that last week the *Westminster Gazette* and this week the *Times* and other newspapers have resolved to use in future the word Serbia instead of Servia, and Serb instead of Servian, these spellings being preferred, for obvious reasons, by that country. We believe that in Serbia the Serbs call themselves Srbs and their country Srbja, as is also the case in the Croatian dialect of Serbian. A correspondent points out that while nearly all the newspapers here use the word "Uhlan," the common German spelling now is Uhan, and Ulanen for the plural, and this spelling was preferred at least as far back as 1882. A number of changes in German orthography were introduced by the Prussian Minister of Education in 1880. A good many "h's" were then dropped, and Thee became Tee. But we doubt whether our correspondent is right in attributing this change to the world-wide influence of the Cockney.

FOREIGN WORDS AND PHRASES FOR RED CROSS WORKERS.

IN THE LANCET of Sept. 12th, p. 728, we noticed one little book of this kind. We have now received from Messrs. Hachette and Co., 18, King William-street, Charing Cross, whose Paris branch is at 79, Boulevard St. Germain, a copy of two small books issued by them at the price of 6*d.* each. One is entitled "Elementary French Words and Phrases for Red Cross Workers," and the other "Elementary German Words and Phrases for Red Cross Workers." The compiler of both is Mr. P. Shaw Jeffrey, of the School House, Colchester. We have run through the French one and find it very useful. On p. 10 should be added the English of "C'est aujourd'hui le deux septembre," and on p. 11 "Quelle heure est-il?" On p. 12, "au bord de la mer" would be more definite if it were translated "at the seaside" instead of "at the sea." On p. 18 "du flan" (custard) is a word which is interesting. It is found in the old English "flawn," a sort of flat custard or pie, said to be derived through old French "flaon," from Low Latin "fladonem," but it is hard to trace. It is a change from the various indefinite "crêmes." On the back cover of

the book, which consists of 24 pages, is the Lord's Prayer in French. The corresponding German book consists of 24 pages, and is also a very useful little book. The author properly calls special attention to the difference in pronunciation between "Liebe" ("love") and "lieber" ("rather"), and "lebe" ("live") and "Leber" ("liver").

Mr. Henry Sewill (Earlswood).—The report of the Select Committee on Patent Medicines was published in full in THE LANCET of Sept. 5th and Sept. 12th, 1914, and was discussed in a leading article on Sept. 12th.

COMMUNICATIONS not noticed in our present issue will receive attention in our next.

Medical Diary for the ensuing Week.

SOCIETIES.

WEST LONDON MEDICO-CHIRURGICAL SOCIETY, Society's Rooms, West London Hospital, Hammersmith-road, W.

FRIDAY.—8.30 P.M., Presentation of the Keetley Memorial Medal to the Retiring President. Presidential Address:—Mr. A. Baldwin: The Prevention of Post-operative Discomforts.

LECTURES, ADDRESSES, DEMONSTRATIONS, &c.

MEDICAL GRADUATES' COLLEGE AND POLYCLINIC, 22, Chenies-street, W.C.

TUESDAY.—4 P.M., Dr. A. S. Woodwark: Clinique (Medical). 5.15 P.M., Dr. A. Eddowes: The Treatment of Some Common Rebellious Skin Affections.

WEDNESDAY.—4 P.M., Mr. A. H. Todd: Clinique (Surgical). 5.15 P.M., Lecture:—Mr. E. D. Davis: Foreign Bodies in the Ear, Nose, and Throat.

THURSDAY.—4 P.M., Dr. R. Wells: Clinique (Medical). 5.15 P.M., Lecture:—Dr. E. P. Cumberbatch: Electrical Treatment of Paralysis.

FRIDAY.—4 P.M., Mr. F. A. Juler: Clinique (Eye).

POST-GRADUATE COLLEGE, West London Hospital, Hammersmith-road, W.

MONDAY.—10 A.M., Dr. Simson: Diseases of Women. 2 P.M., Medical and Surgical Clinics. X Rays. Mr. T. Gray: Operations. Dr. Pritchard: Bacterial Therapy Department. Mr. B. Harman and Mr. Gibb: Diseases of the Eye.

TUESDAY.—10 A.M., Dr. Simson: Gynæcological Operations. 2 P.M., Medical and Surgical Clinics. X Rays. Mr. Addison: Operations. Dr. Davis: Diseases of the Throat, Nose, and Ear. Dr. Pernet: Diseases of the Skin.

WEDNESDAY.—10 A.M., Dr. Saunders: Diseases of Children. Dr. Davis: Operations of the Throat, Nose, and Ear. 2 P.M., Medical and Surgical Clinics. X Rays. Operations. Dr. Simson: Diseases of Women. Mr. Gibb: Diseases of the Eye.

THURSDAY.—9 A.M., Bacterial Therapy Department. 2 P.M., Medical and Surgical Clinics. X Rays. Mr. T. Gray: Operations. Mr. B. Harman: Diseases of the Eye.

FRIDAY.—10 A.M., Dr. Simson: Gynæcological Operations. 2 P.M., Medical and Surgical Clinics. X Rays. Mr. Addison: Operations. Dr. Davis: Diseases of the Throat, Nose, and Ear. Dr. Pernet: Diseases of the Skin.

SATURDAY.—10 A.M., Dr. Saunders: Diseases of Children. Dr. Davis: Operations of the Throat, Nose, and Ear. Mr. B. Harman: Eye Operations. 2 P.M., Medical and Surgical Clinics. X Rays. Operations.

THE THROAT HOSPITAL, Golden-square, W.

MONDAY.—5.15 P.M., Special Demonstration of Selected Cases.
THURSDAY.—5.15 P.M., Clinical Lecture.

ROTUNDA HOSPITAL POST-GRADUATE COURSES, Dublin.

MONDAY.—10 A.M., Obstetrical Lecture: Post-partum Hæmorrhage (continued). 11 A.M., Examination of Patients and Minor Operations.
TUESDAY.—10 A.M., Major Operations.
WEDNESDAY.—10 A.M., Obstetrical Lecture: Rupture of Uterus. 11 A.M., Examination of Patients and Minor Operations.
THURSDAY.—10 A.M., Major Operations.
FRIDAY.—10 A.M., Gynæcological Lecture: Injuries of Labour. 11 A.M., Examination of Patients and Minor Operations.

For further particulars of the above Lectures, &c., see Advertisement Pages.

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IT is most important that communications relating to the Editorial business of THE LANCET should be addressed *exclusively* "TO THE EDITOR," and not in any case to any gentleman who may be supposed to be connected with the Editorial staff. It is urgently necessary that attention should be given to this notice.

It is especially requested that early intelligence of local events having a medical interest, or which it is desirable to bring under the notice of the profession, may be sent direct to this office.

Lectures, original articles, and reports should be written on one side of the paper only, AND WHEN ACCOMPANIED BY BLOCKS IT IS REQUESTED THAT THE NAME OF THE AUTHOR, AND IF POSSIBLE OF THE ARTICLE, SHOULD BE WRITTEN ON THE BLOCKS TO FACILITATE IDENTIFICATION.

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METEOROLOGICAL READINGS.

(Taken daily at 8.30 a.m. by Steward's Instruments.)

THE LANCET Office, Sept. 23rd, 1914.

Date.	Barometer reduced to Sea Level and 32°F.	Direction of Wind.	Rainfall.	Solar Radio in Vacuo.	Maximum Temp. Shade.	Min. Temp.	Wet Bulb.	Dry Bulb.	Remarks.
Sept. 17	29·73	S.W.	0·02	95	70	56	57	59	Raining
,, 18	29·80	N.W.	0·02	104	69	54	52	57	Cloudy
,, 19	29·80	N.W.	...	110	60	49	49	54	Fine
,, 20	29·94	N.W.	0·12	84	55	46	43	50	Cloudy
,, 21	30·30	N.	...	104	59	45	46	49	Cloudy
,, 22	30·36	N.	...	104	59	46	45	49	Fine
,, 23	30·41	S.	...	107	62	46	45	49	Hazy

The following magazines, journals, &c., have been received:—British Journal of Dermatology, American Journal of Obstetrics, Medical Review of Reviews, Archives de Médecine et Pharmacie Navales, South African Nursing Record, Excelsior, Collected Studies from the Bureau of Laboratories of the City of New York, Transactions of the American Ophthalmological Society, American Journal of Roentgenology, Cleveland Medical Journal, American Medicine, Albany Medical Annals, St. Paul Medical Journal, Clinical Medicine, American Journal of Surgery, Calcutta Medical Journal, British Dental Journal, &c.

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